

Enclosure 12
Letter, Felton to Jackson
Date: July 27, 1998

Department of Energy

Oak Ridge Operations Office

memorandum

DATE: March 11, 1998

REPLY TO: DP-81:Sundie
ATTN OF:

SUBJECT: Y-12 SITE OFFICE ASSESSMENT AND OVERSIGHT PLAN, PHASES A1 AND A2

TO: Daniel K. Hoag, ES&H Branch Chief, DP-813, ORO
Mark A. Livesay, Program Management Branch, DP-812, ORO
All Enriched Uranium Operations (EUO) Subject Matter Experts
DOE Facility Representatives

Attached is Revision 1, "Y-12 Site Office Assessment and Oversight Plan for Enriched Uranium Operations, Phases A1 and A2, at the Y-12 Plant," dated March 11, 1998. All subject matter experts associated with restart of the EUO, as defined in Appendix 12.2, are responsible for completing the assessment and oversight activities as defined in Appendices 12.3 and 12.4 in the subject Plan.

If you have any questions, please contact Mark Sundie at 241-6441.


Robert A. Spence
Y-12 Site Manager

Attachment

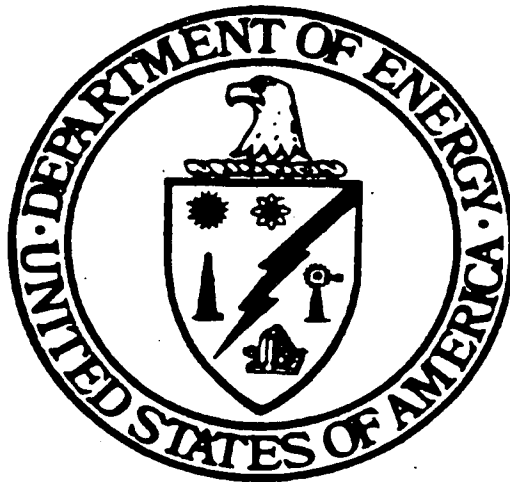
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**U. S. DEPARTMENT OF ENERGY
OAK RIDGE OPERATIONS
Y-12 SITE OFFICE**

**ASSESSMENT AND OVERSIGHT PLAN
ENRICHED URANIUM OPERATIONS
PHASES A1 AND A2
AT THE Y-12 PLANT**

**REVISION 1
MARCH 11, 1998**



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Y-12 SITE OFFICE

**ASSESSMENT AND OVERSIGHT PLAN
ENRICHED URANIUM OPERATIONS
PHASES A1 AND A2
AT THE Y-12 PLANT**

REVISION 1

MARCH 11, 1998

Approved By: _____


J. Dale Jackson, Acting Y-12 Site Manager

Date: _____

3/11/98

Approved By: _____


Robert J. Sperce, Y-12 Site Manager

Date: _____

3/11/98

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TABLE OF CONTENTS

1.0	PURPOSE AND SCOPE	1
1.1	Purpose	1
1.2	Scope	1
2.0	RESPONSIBILITIES	3
2.1	Restart Authority	3
2.2	YSO Operations Support Team	3
2.3	Subject Matter Experts (SME)	4
2.4	Program Management and Environment, Safety, and Health Branch Chiefs	4
2.5	Facility Representatives	5
2.6	DOE-Headquarters (HQ) - DP and Environment, Safety, and Health (EH)	5
3.0	FUNCTIONAL AREA ASSESSMENTS	6
3.1	Background	6
3.2	General Review Approach	7
4.0	FACILITY REPRESENTATIVE OVERSIGHT ACTIVITIES	8
5.0	WEAPONS PROGRAM MANAGEMENT ACTIVITIES	8
6.0	SCHEDULE/PROJECT MONITORING	9
7.0	ASSESSMENT GUIDELINES	9
7.1	Assessment Protocol	9
7.2	General Restart Scope Criteria	10

8.0	INTEGRATED REVIEWS	10
8.1	LMES MSA Integrated Assessments	10
8.2	LMES ORR Integrated Assessments	12
9.0	YSO SELF-ASSESSMENT	13
9.1	Objective	13
9.2	Background	13
9.3	Scope	14
9.4	Assessment Elements	14
9.5	Reporting and Corrective Actions	15
10.0	DOCUMENTATION AND REPORTS	15
10.1	Assessment Documentation	15
10.2	Restart Documentation	16
10.3	Final Report	16
11.0	POSTRESTART OVERSIGHT	16
11.1	Purpose	16
11.2	Organization	17
11.3	Validation Guidelines	17
11.4	Postrestart Oversight Strategy	18
11.5	Acceptance Criteria	19
11.6	Criteria for Removal of Additional Oversight	20
11.8	Documentation	22

12.0 APPENDICES 22

12.1 References 12.1-1

12.2 Functional Area Assignments 12.2-1

12.3 Functional Area CRADs - Phase A1 12.3-1

12.4 Functional Area CRADs - Phase A2 12.4-1

12.5 Form 1, EUO Appraisal Form 12.4-15

12.6 Form 2, EUO Deficiency Form 12.4-19

12.7 Acronyms 12.5-20

ASSESSMENT AND OVERSIGHT PLAN ENRICHED URANIUM OPERATIONS AT THE Y-12 PLANT

1.0 PURPOSE AND SCOPE

1.1 Purpose

The Y-12 Site Office (YSO) Assessment and Oversight Plan describes the activities by which the YSO will monitor the management and performance of the Enriched Uranium Operations (EUO) Program of Lockheed Martin Energy Systems (LMES) in order to evaluate the restart progress, the adequacy of LMES Functional Area upgrades for restart, and the overall EUO readiness in accordance with the Department of Energy (DOE) Order 425.1, *Startup and Restart of Nuclear Facilities*. These criteria will ultimately provide the Y-12 Site Manager with the bases for the recommendation to proceed with the independent DOE Operational Readiness Review (ORR).

1.2 Scope

The contractor will restart the EUO activities to support national defense priorities by determining the plant systems and processes needed to support mission activities; by upgrading the facilities, engineering information, programs, and procedures; and by ensuring personnel training, qualification, and performance of those processes to ensure safe operation.

The EUO Process-Based Restart (PBR) will be managed by the contractor in accordance with the DOE-approved EUO Restart Plan that defines the activities required to prepare the facility for the ORRs and the continuous, steady-state operation and with the Plan of Action (POA) that defines the scope and duration of the ORR processes.

The PBR process is divided into three phases which represent major plant processes and programs that must be ready for phased restart of EUO to support manufacturing and production. This Plan applies to the first two restart phases, Phase A1 and A2. Phase A1 will cover the metal-working processes (casting, machining, rolling, and forming), including some supporting accountability processes. All of these operations are located in Buildings 9212 and 9215 and in several smaller support

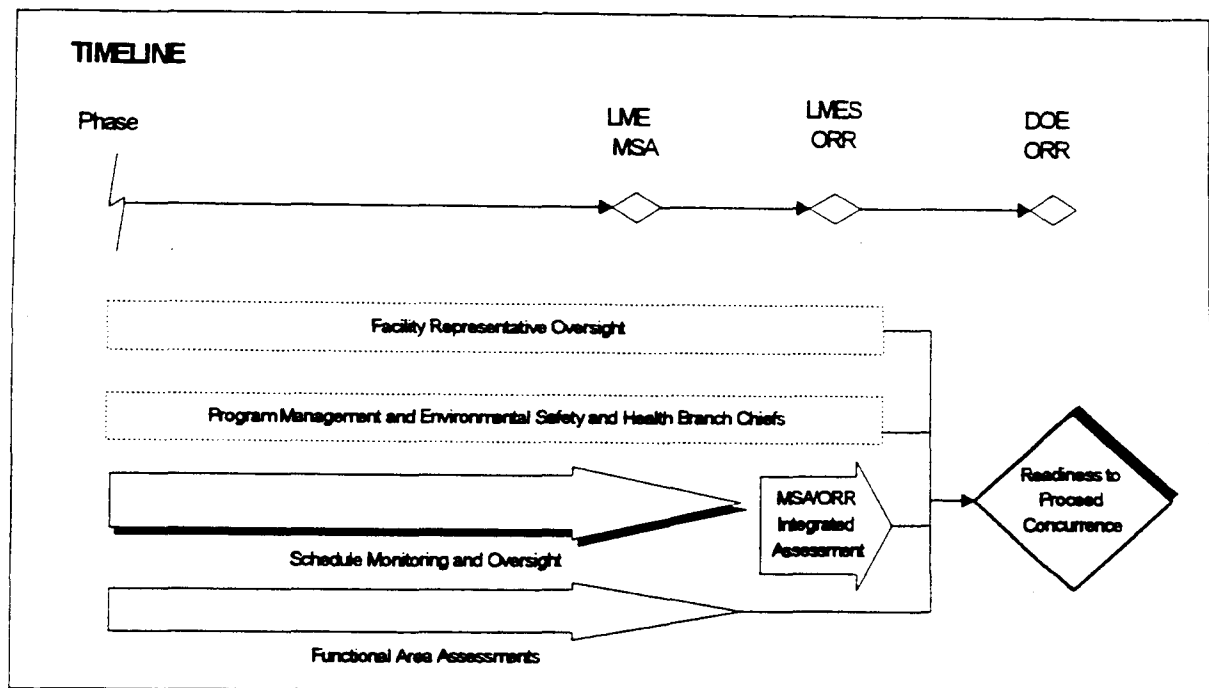
buildings. The assessment of Phase B processes, which include metal production and chemical operations, will be addressed in a separate plan.

Within the scope of this Plan, the YSO will incorporate oversight activities from the following four general areas:

- a. Facility Representative Oversight Activities
- b. Functional Area Assessment Activities
- c. Program Management and Environmental Safety and Health Branch Chiefs
- d. Schedule Monitoring and Oversight

The general logic of the Plan is illustrated below:

EVO OVERSIGHT STRATEGY



2.0 RESPONSIBILITIES

The DOE line management has the responsibility for concurrence of the nuclear facility restart readiness in accordance both with the DOE Order 425.1 and with the accompanying Technical Standard 3006-95, *Planning and Conduct of Operational Readiness Reviews*. The Manager of Oak Ridge Operations (ORO) has the authority, as assigned by the Assistant Secretary for Defense Programs (DP), to approve the restart of the EUO in accordance with DOE Order 425.1. The Manager of the YSO has the responsibilities for the DOE management and oversight of the EUO restart and the authority for providing either concurrence or nonconcurrence with the readiness-to-proceed declaration by the contractor. These responsibilities were assigned by the ORO Manager.

2.1 Restart Authority

The DOE line management has the responsibility for concurrence in nuclear facility restart readiness in accordance with DOE Order 425.1 and its accompanying Technical Standard 3006-95. The authority to approve the restart of EUO, in accordance with DOE Order 425.1, has been assigned to the Manager of ORO by the Assistant Secretary for Defense Programs. The ORO Manager has assigned the Manager of the YSO the responsibilities for DOE management and oversight of the restart of EUO and for providing concurrence or nonconcurrence with the LMES EUO restart readiness and readiness-to-proceed declaration.

2.2 YSO Operations Support Team

The YSO Operations Support Team has the responsibility for coordination of the EUO restart activities and for general management of restart readiness activities. The Team's functions for activities related to the overall site mission, which include EUO restart, will be coordinated between the Chief of Program Management Branch and the YSO Operations Support Team. Specific responsibilities include:

- Reviewing EUO restart-related documents, including the contractor's POA, contractor implementation plan, restart schedule, Management Self-Assessment (MSA) plan;
- Providing recommendations to the ORO resumption manager on actions to take in support of EUO restart;
- Generating any DOE-required documentation to support EUO restart,

including the DOE POA, YSO Oversight and Assessment Plan, restart evidence files, and concurrence on the contractor readiness-to-proceed letter; and

- Establishing a Deficiency Review Board (DRB) to screen all EUO-related deficiencies identified by DOE prior to the DOE ORR to ensure they are within the scope of restart and categorize them as prerestart or postrestart.
- Providing a list of restart or EUO activities to the SMEs that will support the SME's assessment activities.

2.3 Subject Matter Experts (SME)

The SMEs are responsible for oversight and assessment of a specific *Standard/Requirement Identification Document (S/RID)* subject area. Based on these individuals' subject matter expertise, they are assigned to perform a sufficient review to determine if the contractor has adequately prepared the functional area for restart. These criteria for this determination are found in Appendices 12.3 and 12.4 of this Plan. Specific responsibilities include:

- Conducting performance-based reviews of their functional areas as the contractor conducts activities throughout the readiness process to ensure the criteria for restart have been met;
- Identifying activities required to be observed in support of their assessment and coordinate all assessment activities with the YSO Operations Support Team;
- Documenting all assessment activities as described in Section 10.0 of this Plan; and
- Providing a recommendation of readiness in their functional area to the Y-12 Site Manager following completion of the all assessment activities necessary to satisfy the criteria.

2.4 Program Management and Environment, Safety, and Health Branch Chiefs

The Chiefs of Program Management and Environment, Safety, and Health Branches will be responsible to ensure SMEs assigned to the functional areas (Appendix 12.2) under their responsibility support the requirements established in this Plan and to meet required deadlines as

outlined by the YSO Operations Support Team. Specific responsibilities include:

- Ensuring the SMEs complete the necessary assessment activities to evaluate the criteria assigned;
- Reviewing the SMEs documentation for adequacy; and
- Acting as a member of the DRB for deficiencies identified by SMEs in their branch.

2.5 Facility Representatives

The Facility Representatives will:

- Serve as a primary safety component of the YSO contractor oversight program with the responsibilities for routine assessment of operational performance, quality assurance, management control, and the assurance of worker safety and health;
- Plan and conduct assessments to achieve a general evaluation of activities germane to EUO restart;
- Monitor EUO continuing operations and ensure that they are consistent with the DOE approvals for those activities;
- Monitor the contractor's execution of special operation packages;
- Administer assessments that will be documented in the YSO Monthly Assessment Report (MAR) in accordance with *YSO Procedure YSO-1.6, Facility Representative Program*; and
- Provide a recommendation for restart to the Y-12 Site Manager upon the contractors completion of all readiness activities.

2.6 DOE-Headquarters (HQ) - DP and Environment, Safety, and Health (EH)

The DOE-HQ Office of DP will:

- Provide updates to DOE-HQ management and Defense Nuclear Facilities Safety Board (DNFSB) on restart;
- Serve as an interface between EH, DNFSB, and the YSO on matters

affecting EUO resumption;

- Monitor the EUO resumption effort and track progress in support of the Deputy Assistant Secretary for Military Application and Stockpile Management; and
- Assist the YSO if requested (e.g.; staff augmentation, assessments, issue resolution, etc.).

The DOE-HQ Office of EH will:

- Provide oversight of DP restart activities and the independent DOE ORR as defined by DOE Order 425.1; and
- Designate an individual to serve on the Dispute Resolution Team as defined by DOE Order 425.1.

3.0 FUNCTIONAL AREA ASSESSMENTS

3.1 Background

This guidance is provided to ensure consistency and to provide clarification to the functional area reviews that will be conducted by DOE line management as part of their validation of readiness to resume operations within EUO. This validation will support the recommendation that will be given to the Y-12 Site Manager in concurrence of the contractor's readiness to proceed as required by DOE Order 425.1. The Y-12 Site Manager's concurrence, to proceed with the DOE ORR, will be given to the restart authority, the Manager of ORO.

This Assessment and Oversight Plan is based upon a set of criteria and review-approach documents (CRADs) that have been generally used and accepted in ORRs in DP facilities throughout the DOE Complex. In addition to the readiness to the people, documentation, and equipment, Phase A1 contains a validation of the programmatic elements of each functional area. This validation of the administrative and safety management programs is applicable to the entire EUO facility complex, and, therefore, will not require repetition in Phase A2; consequently, the number of CRADs required for Phase A2 will be reduced and applicable to the specific processes included in Phase A2. The CRADs for Phases A1 and A2 are contained in Appendices 12.3 and 12.4, respectively, and are designed to ensure that the facility is compliant with the minimum core requirements outlined in DOE Order 425.1 and is ready for restart. Each

SME will have CRADs assigned to the functional area and will be required to document their review as discussed in this Plan.

3.2 General Review Approach

The general review approach includes:

- A review of each functional area to ensure the contractor has established an adequate program for a safe restart. This determination will be based upon a graded approach; some program items may be deemed postrestart. The SME must validate the implementation of those portions of the program through direct observation in the field.
- The performance of assessments in accordance with the CRADs listed in Appendices 12.3 and 12.4 of this Plan.
- An evaluation of the identified CRADS as part of the MSA/ORR oversight function.

The assessments will be performance-based and will validate that the requirements identified for restart in the POA have been satisfied. The CRADs define both the criteria by which these requirements are satisfied and the review approach by which each criteria are assessed. The review approach will involve generally observations, document reviews, and interviews.

The first element of review will be accomplished by observations of field activities (i.e., hoisting evolutions, glove box operations, surveillances, packing activities, training, qualification boards, drills, test and checkout activities, storage-labeling, prejob briefings, receipt inspections, maintenance, configuration-control boards, dress-outs, etc.).

The DOE assessments will also include the adequacy of contractor documents. These document reviews will be focused on operational documents, but the DOE will also review other supporting documentation. Operational documents include items such as Radiological Work Permits (RWPs), Operational Safety Requirements (OSRs), Criticality Safety Requirements (CSRs), Basis for Interim Operations (BIOs), procedures, maintenance work packages, test and checkout procedures, weigh bills, drawings, Resource Conservation and Recovery Act permits, training materials, etc. Supporting documentation includes items such as

criticality safety evaluations (CSE), training files, procedure history files, etc.

The last part of the DOE review will include interviews to determine if the contractor has an adequate level of knowledge in the appropriate functional area. These interviews will be accomplished preferably in the working environment of the operator or support person(s), which will not be a sit-down-type interview.

4.0 FACILITY REPRESENTATIVE OVERSIGHT ACTIVITIES

Facility Representatives are a primary component of the YSO contractor oversight program with the responsibilities for routine assessments of operational performance, quality assurance, management control, and assurance of worker safety and health.

The Facility Representatives will:

- Serve as a primary safety component of the YSO contractor oversight program with the responsibilities for routine assessments of operational performance, quality assurance, management control, and the assurance of worker safety and health;
- Plan and conduct assessments to achieve a general evaluation of activities germane to EUO restart;
- Monitor EUO-continuing operations and ensure that these are consistent with the DOE approvals for those activities;
- Monitor the contractor's execution of special operation packages;
- Administer assessments that will be documented in the YSO MAR in accordance with YSO Procedure YSO-1.6; and
- Provide input to YSO Manager on removal of continuous DOE oversight.

5.0 WEAPONS PROGRAM MANAGEMENT ACTIVITIES

YSO coordination and management of the Y-12 Plant weapons programs are provided by the YSO Program Management Branch in accordance with the existing procedures and practices of the YSO.

Program Management Branch functions for activities related to EUO restart budget, schedule, and work scope management will be coordinated between the Chief of Program Management Branch and the YSO Operations Support Team.

6.0 SCHEDULE/PROJECT MONITORING

The YSO Operations Support Team will have overall responsibility for the daily monitoring of the contractor schedule for restart of EUO.

Monitoring of the schedule shall ensure the following are achieved:

- Schedule performance versus Level-3 milestones: The actual performance of activities in the schedule will be compared to the scheduled times to ensure the basic critical flowpath is maintained.
- The contractor's control of schedule revision will be monitored to ensure that an accurate, current schedule is maintained.
- Budget and cost of the work scheduled versus the actual cost of work at completion will be compared for maintenance of the DOE-approved budget for this project.
- Identify activities from the schedule which, when completed, will require further oversight and/or assessment.

7.0 ASSESSMENT GUIDELINES

7.1 Assessment Protocol

The assessment protocol includes the following:

- Performance-based reviews must be instituted wherever possible in the assessment.
- A "smart sample" will be chosen to start the assessment, and additional material may be reviewed, depending upon the results of the assessment of the sample.
- All assessments should be coordinated with the YSO Operations Support Team for evaluation of contractor readiness, based upon the resumption schedule.

- Assessment results shall be documented as described in Section 10.0. The preliminary results should be made available on electronic mail to all SMEs so that issues that may interface with other functional areas can be identified, investigated, and primary responsibility established.
- Assessment of the programmatic aspect of each functional area will be completed during Phase A1. Any review of the programmatic elements during the Phase A2 will be the discretion of the responsible Functional Area Lead and with the concurrence of the YSO Operations Support Team.

7.2 General Restart Scope Criteria

In determining whether issues from assessments should be included in restart, the following general criteria should be used.

- Issues identified are required in the development of adequate safety basis.
- Issues identified are required to support the necessary process for meeting national priorities, including ensuring safety systems/equipment are operable; nonsafety systems/equipment are functional; and compliance with environmental permits and other legal requirements.
- Issues identified are required to ensure that the operator can safely perform the production tasks required to support the facility mission.
- Issues identified, which are required to ensure necessary programs to support operations, are at a sufficient level of implementation to protect worker and public safety. Necessary programs are defined as those programs credited in the safety documentation and necessary to support production.

8.0 INTEGRATED REVIEWS

8.1 LMES MSA Integrated Assessments

The EUO MSA will confirm readiness as described in the four steps below.

- Process Readiness

The MSA will take credit for the Management Internal Assessment (MIA) performed on each process.

- Training/Qualification (TQ) Area Readiness

The MSA will take credit for the MIA performed on each TQ area.

- Operational Readiness

This step will be the performance assessment part of the traditional MSA. It will be done by area (e.g., E-Wing) and spread over a longer period than a traditional MSA. The Operational Assessment (OA) will be conducted after all TQ MIAs are complete for the area. The OA will consist of exercises, drills, interviews, and observations to verify personnel at all levels can perform required tasks consistently with the safety basis. The OA will include assessment of conduct of operations to fulfill the Restart Plan commitment for a Conduct of Operations assessment.

- Overall Readiness

Upon completion of other steps, a table-top review will be conducted to confirm that

- restart plan commitments are complete,
- POA evidence (as specified in the evidence criteria) is in place,
- prerestart deficiencies are closed or scheduled, and
- compensatory actions are in place.

MSA approach includes:

- The team will evaluate PBR work products, using the CRADs in Appendix 12.3 for Phase A1 and Appendix 12.4 for Phase A2 of this Plan which define the criteria for each functional area assessment.
- PBR work products will be evaluated, on a sampling basis, for

proper vertical and horizontal interfaces to upper-tier procedures and DOE Order provisions.

- Implementation of the work products will be evaluated.
- The YSO will conduct a team assessment during the operational readiness portion of the MSA to meet the Core Objective (CO) requirements from DOE Order 425.1. The specific CRADs for this assessment are contained in Appendices 12.3 and 12.4 of this Plan.
- The team will also evaluate the previously identified PBR development problems, including but not limited to:
 - a. PBR effectiveness in submitting a "ready" process for MIA.
 - b. CSR development issues.
 - c. Use and content of test and checkout procedures in accordance with PBR Standards.
 - d. EUO operational staffing.
 - e. Process Turnover Program definition.
 - f. S/RIDS Compliance and LMES Compliance Review.
 - g. Unreviewed Safety Question Determination (USQD) adequacy.
 - h. Evaluate the contractor's response activities for previously identified PBR deficiencies.
- Functional area assessments for subjects, involving little or no EUO-specific upgrades or preparations, may be accomplished prior to or as part of the Integrated Team Assessments.

8.2 LMES ORR Integrated Assessments

Concurrent with the LMES ORR, the YSO will conduct a comprehensive assessment of EUO readiness to proceed with restart. This assessment will be the final YSO restart assessment activity conducted prior to receipt of the contractor's ready-to-proceed memorandum in accordance with DOE Order 425.1.

The objectives of the ORR Integrated Assessment are to provide a DOE line-management evaluation of the adequacy and restart readiness of the following:

- Completed LMES PBR work products.
- Field implementation of EUO procedures and programs.
- Implementation of personnel training and qualification programs and level of worker knowledge.
- Plant-and-process system material condition and operability.

The ORR Integrated Assessment Approach includes:

- The YSO will conduct a team assessment of the contractor readiness, using program, document reviews, and performance activities that are based on field assessment techniques.
- The assessment will be structured to meet the above-listed objectives and to emphasize evaluation of PBR results and performance with respect to restart readiness.
- The assessment will include observation of the LMES ORR and will render a determination of acceptability of those contractor assessments.

9.0 YSO SELF-ASSESSMENT

9.1 Objective

The objective of the EUO Resumption Self-Assessment Plan is to establish the methods by which the YSO will self-assess their readiness to support EUO restart.

9.2 Background

DOE Order 425.1 will be applied to the resumption of EUO activities and requires the evaluation of the readiness of YSO with respect to the following DOE Order COs:

CO-16 - "The technical and managerial qualifications of those personnel at the field organization, ... who have been assigned

responsibilities for providing direction and guidance to the contractor, including the facility representatives, are adequate..."

CO-20 - "Operations Office Oversight Programs, such as Occurrence Reporting, Facility Representative, Corrective Action, and Quality Assurance, are adequate..."

9.3 Scope

The EUO Resumption Self-Assessment will evaluate the performance of the YSO staff and programs and will determine their readiness to support restart and to withstand the scrutiny of the DOE ORR.

9.4 Assessment Elements

The general approach of the self-assessment will involve evaluation of the following:

- The programmatic adequacy and performance-based implementation of the YSO programs that support activities subject to the COs.
- Completion and adequacy of the corrective actions for weaknesses identified by prior self-assessments applicable to the COs.
- Actions taken in response to the DNFSB Recommendations 93-3, 94-4, and 97-2.
- The following YSO Procedures/Programs will be evaluated to validate compliance with the COs.
 - a. YSO-1.2, "Organization and Responsibilities"
 - b. YSO-1.6, "Facility Representative Program"
 - c. YSO-1.9, "Master Assessment Plan"
 - d. YSO-2.1, "Technical Qualification Training Program"
 - e. YSO-3.1, "Conduct of Operations"
 - f. YSO-3.2, "Deficiency Processing"

- g. YSO 3.4, "Occurrence Reporting"
- h. YSO-4.1, "Unclassified Document Control and Records Management"
- i. YSO-5.5, "Tracking and Verification of Internal/External Commitments and Deliverables"
- j. YSO-9.2, "Contractor Oversight"
- k. YSO Qualification Standards

9.5 Reporting and Corrective Actions

Reporting and corrective actions from this self-assessment will be accomplished as described in Section 10.0 of this Plan.

10.0 DOCUMENTATION AND REPORTS

10.1 Assessment Documentation

SMEs will document their assessment activities immediately upon completion of their reviews. Informal documentation, such as a memorandum, check list, or electronic mail, is acceptable. Multiple assessments activities may be required to complete the review approaches identified in the CRADs and may be documented separately. Assessment activities, which have documented weaknesses and deficiencies, should be made available on electronic mail to the EUO Facility Representatives, SMEs, and the YSO Operations Support Team.

Prior to providing any deficiencies to the contractor, the deficiencies must be provided to the DRB for screening and evaluation. The SME shall submit the deficiency to the DRB by completing a Form 2 (EUO Deficiency Form) in accordance with the example shown in Appendix 12.6. The DRB will evaluate if the deficiency identified is within scope of restart and will determine if the deficiency is pre-/post-restart. The DRB will also ensure that all deficiencies are included in the YSO MAR. The DRB will immediately provide any significant deficiencies directly to EUO Senior Management. All other deficiencies will be returned to the SME to coordinate resolution of the deficiencies with their counterpart.

10.2 Restart Documentation

The formal restart documentation of each functional area will be accomplished by completing the Form 1 (EUO Appraisal Form), Appendix 12.5. There should be a Form 1 completed for each objective listed in the Functional Area CRADs. The information contained on the Form 1 should be drawn from the assessment documentation, which was completed as discussed in Section 10.1. The Form 1 should be sufficiently detailed to indicate how each of the review approaches was accomplished, and any deficiencies identified should be highlighted. An example of a completed Form 1 is shown in Appendix 12.5.

For each deficiency identified during the assessments, the SME should prepare a Form 2 in accordance with an example shown in Appendix 12.6. The deficiencies identified in the approved Form 2s will be issued in the MAR.

10.3 Final Report

Each functional area will be required to provide a summary of the readiness status for their functional area for the final report. The Functional Area portion of the final report should contain a description of the criteria reviewed, the readiness status of these criteria, and any outstanding deficiencies remaining at the time of the report. The format of the final report will be at the discretion of the YSO Operations Support Team.

11.0 POSTRESTART OVERSIGHT

11.1 Purpose

After completion of the ORRs for Phases A1 and A2, LMES will initiate operations, using enriched uranium. For several of these processes, this will be the first use of this material and will require specific management controls. These controls are described in LMES Y/MA-7367, *Enriched Uranium Operations (EUO) Startup Plan*, dated February 1998. Additional oversight coverage both by the Facility Representatives and by the SMEs will be required until the facility operations have achieved "steady-state" condition as determined by the YSO. The following describes the YSO oversight of these management controls during post-ORR operations.

11.2 Organization

A Team Leader will be assigned by the DOE YSO Manager. The Team Leader will coordinate the assignment of Team members to cover specific plant-related activities. Team members shall report plant-related activities directly to the Team Leader. Personnel, equipment, environmental, and nuclear safety issues shall be brought to the immediate attention of their Contractor facility counterparts and the Team Leader. The Team Leader shall keep the YSO Manager apprised of all plant-related activities and of any issues or concerns found by the Team members.

The Team shall include the Team Leader and Team members. Additional members may be added as approved by the YSO Manager.

Team Leader: Operations Support Team Leader

Team Members: EUO Facility Representatives and SMEs (as needed)

Team members must have technical experience relevant to their assignments and assessment experience and must be familiar with the facility and process that are being reviewed. Team members shall have a DOE "Q" security clearance and shall meet all necessary facility access requirements.

11.3 Validation Guidelines

- The required validations for this Plan supplement those normally performed by the DOE Facility Representative during facility startup following an extended shutdown. The Facility Representative will retain their normal oversight responsibilities.
- The validations performed by this Plan shall be performance-based.
- Team members shall prepare themselves for the operational activity to be validated by reviewing all applicable documentation required to perform the activity.
- Activities, which are performed during the validations of a given process, shall include
 - attending any crew briefings;

- observing turnovers;
 - querying operators and supervisors, on a not-to-interfere basis, to assess their understanding of the facility process and procedures to be performed;
 - determining if the facility personnel are effectively implementing Conduct of Operations requirements as part of their duties; and
 - assessing the condition of the process equipment.
- Personnel, equipment, environmental, and nuclear safety issues shall be brought to the immediate attention of the facility counterpart and subsequently to the Team Leader. All observations, findings, issues, and concerns shall be documented according to the YSO Operating Procedure YSO-3.2, *Deficiency Processing*.

11.4 Postrestart Oversight Strategy

After the authorization to resume Phases A1 and A2 operations is granted by DOE, LMES will resume operations in processes that have not been recently operated with enriched uranium. Management controls were developed and documented in Y/MA-7367. Since these controls are temporary until steady-state operations can be achieved, additional oversight by the YSO is warranted. Routine oversight by the Facility Representatives and the YSO assessments in the YSO Master Assessment Plan must be augmented temporarily to provide the coverage necessary for assurance that the contractor is operating under the existing safety basis. This plan provides the methodology for this additional oversight function until the contractor can demonstrate to YSO that Phases A1 and A2 processes can be operated in a safe, consistent manner.

The majority of the oversight of the first-use controls during operations will be the responsibility of the YSO Operations Support Team, which includes the EUO-qualified Facility Representatives and Operations Support engineers. Other SMEs will assist in this oversight, based on the activity, resource availability, etc., at the discretion of the YSO management.

The Phases A1 and A2 processes, which are being resumed, will be divided into three categories, each requiring a different degree of oversight.

The first category includes the following processes that will require continuous oversight: E-Wing casting, precipitator, B-1, etc.

The second category of processes requires periodic oversight determined by the YSO Operations Support Team. The category includes those processes operated previously as continuing and special operations. The amount of oversight of these processes will be determined by the YSO management with recommendations by the YSO Operations Support Team. These processes include high-capacity evaporators, south hood, muffle furnace, break and shear, etc.

The third category of processes will require no additional oversight beyond the routine of the Facility Representative and the Master Assessment Plan scheduled assessments. These processes include continuing operations and utility systems (nitrogen, tower water, process water, etc.)

The Facility Representatives, YSO management, and the YSO Operations Support Team will categorize each process prior to restart authorizations.

11.5 Acceptance Criteria

1. The following criteria shall be applicable to all operational activities.
 - Operations personnel demonstrate sound principles of Conduct of Operations and meet applicable requirements.
 - Procedures comply with the DOE requirements and meet or exceed the requirements provided in DOE Order 5480.19, "Conduct of Operations."
 - Procedures adequately implement and are consistent with the approved safety basis.
 - Operators demonstrate requisite proficiency during their performance of operational activities.
 - Equipment and support systems function properly.
2. The following attributes shall be verified for each process monitored as applicable.

- Applicable surveillance requirements have been performed satisfactorily and properly documented.
- Criticality Safety Operating Limits are effectively implemented.
- Personnel safely operate systems and components under their cognizance in accordance with approved plant procedures and demonstrate willingness to stop if the procedure is unclear or not workable.
- Support organization personnel provide adequate support to the Operations organization. Attention is given to health, safety, and environmental protection issues.
- Operators and supervisors possess the required technical understanding and ability to conduct their assigned duties.
- Operators performing operations have attained the required qualifications.
- Staffing levels are adequate and satisfy administrative and safety basis requirements.
- Facility procedures are adequate in content, level of detail, and acceptance criteria and properly implement safety requirements.
- Procedures used by the Operators are properly controlled to ensure only the latest revision is used.
- Radiation Protection and Maintenance personnel are providing adequate support to the Operations organization and adequate attention to health, safety, and environmental protection issues.
- Safety system parameters used to verify compliance with safety requirements can be accurately verified.

11.6 Criteria for Removal of Additional Oversight

The final goal of this exercise is to achieve a level of certainty that the contractor can operate the Phases A1 and A2 processes in a

consistent, safe manner in support of the site mission. To accomplish this goal, the following guides must be used by YSO, based on management and engineering judgment. After this level of assurance is achieved, the additional oversight can be terminated, and the YSO can rely both on routine Facility Representative coverage and on the YSO Master Assessment Plan.

1. Each process will be evaluated as to when this additional oversight can be removed. The EUO processes will be evaluated individually, based on the performance-based observations by DOE YSO.
2. Based on performance-based observations, the contractor demonstrates an adequate level of knowledge of conduct of operations principles. Examples would include accurate narrative log-keeping, communication of exact verbatim feedback of instructions between operators and supervisors, following procedures as written, and the ability to react properly to abnormal situations.
3. The processes have been operated with minimal interruptions due to operator error.
4. Demonstrated level of knowledge of processes obtained during qualifications is maintained and consistent with the Training and Qualification Program Description.
5. CSRs are consistently used correctly, and violations are kept to a minimum with a goal of zero violations occurring during the oversight period.
6. Good health and safety practices are maintained during the course of the oversight period.
7. Both senior and line management remain involved and knowledgeable of process operations. Facility management performs regular observations of the various operations and provided feedback to workers on the floor as necessary.
8. Documented plans for regular management walkthroughs are established with all findings tracked.

11.7 Methodology for Removal of Continuous Oversight

The methodology for removal of the continuous oversight of EUO consists of performance-based observations of the contractor's operational activities after authorization to resume has been granted by DOE. Specific details utilized by the YSO will be at the discretion of the YSO Site Manager. The results of these observations will be documented evidence from the Facility Representatives and SMEs involved in the oversight activities. This evidence will be evaluated and a consensus reached, which will be used by the YSO Site Manager to cease formally the continuous oversight. The contractor will be informed by letter from the YSO Site Manager to the LMES Vice President for Restart Operations.

11.8 Documentation

All activities will be documented in accordance with YSO-3.2.

12.0 APPENDICES

12.1 References

1. 10 CFR 830.120.
2. 10 CFR 835.
3. 49 CFR 100-199.
4. DOE Order 151.1, "Comprehensive Emergency Management Systems," September 25, 1995.
5. DOE Order 440.1, "Worker Protection Management for DOE Federal and Contractor Employees," September 30, 1995.
6. DOE Order 460.1A, "Packaging and Transportation Safety," October 2, 1996.
7. DOE N 441.2, "Radiological Protection for DOE Activities," September 19, 1996.
8. DOE Order 232.1A, "Occurrence Reporting and Processing of Operations Information," July 21, 1997.

9. DOE Order 4330.4B, "Maintenance Management Program," February 10, 1994.
10. DOE Order 5400.1, "General Environmental Protection Program," November 9, 1988.
11. DOE Order 5400.5, "Radiological Protection of the Public and the Environment," January 7, 1993.
12. DOE Order 5480.4, "Environmental Protection, Safety, and Health Protection Standards," January 7, 1993.
13. DOE Order 5480.7A, "Fire Protection," February 17, 1993
14. DOE Order 5480.19, "Conduct of Operations Requirements for DOE Facilities," May 18, 1992.
15. DOE Order 5480.20A, "Personnel Selections, Qualifications, and Training Requirements for DOE Nuclear Facilities," November 15, 1994.
16. DOE Order 5480.21, "Unreviewed Safety Questions," December 24, 1991.
17. DOE Order 5480.22, "Technical Safety Requirements," February 25, 1992.
18. DOE Order 5480.23, "Nuclear Safety Analysis Reports," April 30, 1992.
19. DOE Order 5480.24, "Nuclear Criticality Safety," August 12, 1992.
20. DOE Order 5482.1B, "Environment, Safety, and Health Appraisal Program," November 18, 1991.
23. DOE Order 5820.2A, "Radioactive Waste Management," September 26, 1988.
24. DOE Order 425.1, "Startup and Restart of Nuclear Facilities," September 29, 1995.
25. DOE Order 5700.6C, "Quality Assurance", August 21, 1995.

26. DOE Technical Standard 3006-95, "Planning and Conduct of Operational Readiness Reviews," November 1995.
27. DOE Technical Standard 1070-94, "Guidelines for Evaluation on Nuclear Training Programs," June 1994.
28. DOE Technical Standard 1073-93, "Guide for Operational Configuration Management Program," November 1993.
29. YSO Procedure YSO-1.6, "Facility Representative Program," May 19, 1997.
30. YSO Procedure YSO-1.2, "Organization and Responsibilities," May 28, 1997.
31. YSO-1.9, "Master Assessment Plan," July 29, 1996.
32. YSO-2.1, "Technical Qualification Training Program."
33. YSO-3.1, "Conduct of Operations," January 2, 1997.
34. YSO-3.2, "Deficiency Processing," June 24, 1996.
35. YSO 3.4, "Occurrence Reporting," January 10, 1994.
36. YSO-4.1, "Unclassified Document Control and Records Management," November 16, 1993
37. YSO-5.5, "Tracking and Verification of Internal/External Commitments and Deliverables," Rescinded.
38. YSO-9.2, "Contractor Oversight," December 11, 1995
39. LMES, Y/MA-7367, "Enriched Uranium Operations (EUO) Startup Plan," January 1998.

12.2 Functional Area Assignments

FUNCTIONAL AREA ASSIGNMENTS

FUNCTIONAL AREA	SME
Conduct of Operations Operations Procedures	Dale Christenson
Training and Qualification	Mark Sundie
Configuration Management	Dale Christenson
Maintenance	Andy Stevens
Nuclear Safety Criticality Safety Facility Safety	Dan Hoag - lead Ed Kendall Sarah Hartson
Fire Protection	Dan Hoag
Management Systems Issues Management Order Compliance	Mark Sundie
Radiological Protection	Jim Douglas
Waste Management and Environmental Protection	Larry Sparks Susan Morris
OSHA	Jerry Robertson
Emergency Management	John Pearson
Quality Assurance	Tom Larkin
Engineering	Dale Christenson
Packaging and Transportation	Dana Willaford

12.3 Functional Area CRADs - Phase A1

Conduct of Operations (OP)

OP-1 Level of knowledge of Operations and Plant Shift Superintendents (PSS) personnel is adequate based on reviews of examinations and examination results and selected interviews of Operations and PSS personnel. (Core Requirement No. 3)

Criteria

1. The level of operator knowledge is adequate to operate safely. This includes knowledge of radiological protection (RP), industrial hygiene (IH), fire protection (FP), waste management (WM), and safety envelope, as appropriate, to support operations. (DOE Order 5480.19, Chapter XIII; DOE Order 5480.20A, Chapters I and IV)
2. Operations and PSS personnel retain a practical and adequate understanding of facility systems and operations. These personnel also give adequate attention to and retain an adequate knowledge of health, safety, and environmental protection issues. (DOE Order 5480.19, Chapter XIII; DOE Order 5480.20A, Chapters I and IV; DOE Order 5700.6C, Criteria II)
3. Operators and PSS personnel demonstrate the ability to carry out normal, abnormal, and emergency procedures. (DOE Order 5480.19, Chapter XIII; DOE Order 5480.20A, Chapter I)
4. Operators demonstrate a working knowledge of facility systems and components related to safety. (DOE Order 5480.19, Chapter XIII; DOE Order 5480.20A, Chapter I)

Approach

Record Review: Review examinations to determine if they adequately test the operator's understanding of technical fundamentals, facility systems, and operating procedures.

Review for adequacy and completion, the training records which indicate PSS personnel training on facility procedures and systems under their cognizance as well as system and facility hazards.

Interviews: Interview operators and their supervisors to assess their understanding of facility processes, procedures, OSRs, CSRs, and fundamentals of EUO processes as they relate to the restart effort.

Interview PSS personnel to assess their understanding of their actions when responding to abnormal and emergency conditions and facility hazards as well as their understanding of how these actions relate to the safety basis for operations. Determine if these personnel have an adequate knowledge of health, safety, and environmental protection issues.

Shift Performance: Observe operational drills, routine evolutions, and normal operations to assess technical understanding and ability of the operators and supervisors to conduct their duties and to safely operate systems and components in accordance with approved plant procedures.

Observe drills, routine evolutions, and normal operations to assess the ability of PSS personnel to safely operate systems and components under their cognizance in accordance with approved plant procedures.

- OP-2 Operations personnel exhibit an awareness of public and worker safety, health, and environmental protection requirements and, through their actions, demonstrate a high-priority commitment to comply with these requirements. (Core Requirement No. 14)

Criteria

1. Operations personnel, including operators, supervisors, and shift technical advisors, are knowledgeable of safety and environmental protection requirements and understand how they are implemented. (DOE Order 5480.19, Chapter II)
2. Operations personnel, including operators, supervisors, and shift technical advisors, understand the importance of procedural compliance and adhere to the policy. (DOE Order 5480.19, Chapters I and XVI)

Approach

Record Review: Review the training records which indicate that operations personnel have received instruction on safety and environmental protection requirements and their implementation and on

the Procedure Compliance Policy. Review the Procedure Compliance Policy to verify it conforms to DOE Order 5480.19 guidance.

Interviews: Interview operators and supervisors to assess their understanding of the safety envelope and the implementation of the safety and environmental protection requirements in procedures and operator round sheets.

Shift Performance: Assess procedural compliance when conducting evolutions and responding to abnormal conditions.

- OP-3 The implementation status for DOE Order 5480.19 and appropriate S/RID is adequate for operations. Noncompliance issues have been addressed. (Core Requirements Nos. 7 and 12)

Criteria

1. Program requirements have been developed and issued for the topics addressed in the DOE Order. (DOE Order 5480.19)
2. Operations personnel demonstrate the principles of the conduct of operations requirements during the shift performance period. Adequate performance will be demonstrated in all areas of the Order, including:
 - shift routines and operating practices (control area activities, logkeeping, shift turnover, communications);
 - system control (lockouts and tagouts, independent verification, control of equipment, control of plant systems via status boards, system labeling, etc.);
 - procedures and training (control of on-shift training, procedure use, operator aids, required reading, timely orders to operators); and
 - housekeeping, including adequate control of hazardous materials, transient combustibles, and ignition sources. (DOE Order 5480.19, para. 4.)

These criteria include adequate performance of support organizations as specified in Memorandum of Understanding (MOU) with EUO.

3. All noncompliance issues are adequately addressed by DOE-approved compliance schedule agreements (CSA) or exemptions. The CSAs include an adequate technical basis and schedule for attaining compliance; and compensatory measures that are specified in the CSAs are adequately implemented.

Approach

Record Review: Review recently completed operations logs, shift turnover documents, and other plant records of note to assess compliance with conduct of operations principles.

Review the Order compliance package for DOE Order 5480.19, including the applicable CSA, exemptions and compensatory measures, including the EUO mentor program.

Review MOUs issued by EUO support organization.

Interviews: Interview operators, supervisors, and support organization personnel to assess their understanding of the conduct of operations principles in the performance of their duties.

If these Orders are not fully implemented, interview management personnel to ensure they are aware of the noncompliance(s) and action necessary to fully implement the Order requirements as well as current compensatory measures in the interim. Interview mentors to assess their understanding of when they are acting as compensatory measures and what function they provide when they act as compensatory measures.

Shift Performance: While observing evolutions and drill response, determine if the facility is effectively implementing the conduct of operations requirements. Attend shift turnovers, incident critiques, and prejob briefings and observe control room activities, operator rounds, panel walkdowns, procedure use, communications, and response to alarms, control of system status, and lockout/tagout activities.

Where appropriate, observe the implementation of any specified compensatory measures within the facility to determine their effectiveness.

- OP-4** Adequate and correct procedures are available for operating and maintaining the process systems and designated utility systems. Procedures have been revised to reflect modifications to the facility.

Procedures, as affected by facility modifications, are consistent with the description of the facility, procedures, and accident analysis included in the safety basis. (Core Requirement Nos. 1, 15, and 18)

Criteria

1. Operations, maintenance, and surveillance procedures meet or exceed the requirements of the guidance provided in DOE Order 5480.19. (DOE Order 5480.19, Chapter XVI; DOE Order 5700.6C, para. 9.b.(2)(a); DOE Order 4330.4B, Chapter II)
2. Operations, maintenance, and surveillance procedures adequately implement and are consistent with the approved safety basis.
3. Procedures are available to the operators to enable them to monitor and control the safe operation of the plant under normal, abnormal, and emergency conditions in compliance with DOE Order 5480.19 and the appropriate S/RID. Procedures are developed, approved, controlled, and changed consistent with the requirements of the appropriate S/RID. (DOE Order 5480.19, Chapter XVI; DOE Order 5480.22, para. 9.; DOE Order 5700.6C, para. 9)

Approach

Record Review: Review validation, walkdown, and reviewer comments for recent procedural changes on safety systems. Review procedures for implementation of the safety envelope. Assess the adequacy of the review-and-approval process for procedures. Review documented basis for test acceptance criteria. Assess the currency of procedures and verify that current configuration of safety systems is reflected in operations, maintenance, and surveillance procedures.

Interviews: Interview operators and supervisors to assess their understanding of the temporary procedure change process and how they verify the latest approved revision of a procedure. Interview support staff personnel responsible for procedure writing and revision to assess their understanding of procedure-control requirements, validation process, and implementation of safety requirements. Interview operator and supervisors and assess their understanding of site procedure compliance policy.

Shift Performance: While observing evolutions and drill response, determine if the facility procedures are adequate in content, level of detail, and acceptance criteria and properly implement safety requirements. If temporary procedural changes are necessary, assess the steps taken by an operator and his supervisor in the review-and-approval process. Verify that procedures used by the operators are properly controlled to ensure only the latest revision is used. Verify that operators are following the site procedure compliance policy.

- OP-5 A routine drill program, including program records, has been established and implemented. (Core Requirement No. 9)

Criteria

1. An effective routine operations drill program has been established. Drills and exercises are conducted, and an adequate response capability is demonstrated to exist. (DOE Order 5480.19, Chapter VI; DOE Order 5480.20A, Chapter I)

Approach

Record Review: Review the drill records that describe the routine drills, which have been conducted, and review the results from each. Determine if the drill scenarios were adequate and if the necessary number of drills has been conducted to fully test personnel, procedures, and equipment in a broad range of facility operations.

Interviews: Interview personnel responsible for the development and conduct of drills to evaluate their understanding of the purpose and their ability to execute the drill program.

Shift Performance: Observe drills and evolutions to assess the understanding and significance operators and supervisors place on ensuring facility operations meet environmental protection requirements and are within the established safety envelope.

Observe operational drills to verify they test operations personnel with realistic and challenging scenarios. Evaluate whether an adequate response capability exists.

Configuration Management (CM)

- CM-1** Safety systems and equipment, safety-significant systems and equipment, and systems and equipment essential to worker and public safety are defined, and a system to maintain control over the design and modification of facilities and these systems and equipment is established. (Core Requirement No. 4)

Criteria

1. Administrative controls are in place to ensure that repairs (or modifications) are adequately analyzed to ensure that design changes are documented and approved prior to implementation. (DOE-STD-1073-93, Chapter 1.3)

Approach

Record Review: Review recent design changes and modification to the facility and equipment to ensure compliance with EUO's change control process. Review recent design changes and modifications to the facility to ensure that they have been reflected in drawings and documents required to be under configuration control. Review maintenance activities to ensure they receive a change control screening.

Interviews: Interview personnel within EUO and in support organizations associated with the configuration management program to assess their understanding of program requirements and responsibilities.

Shift Performance: Select a sample of the maintenance work activities and modifications and perform facility walkdowns to determine whether there are uncontrolled modifications to the facility and systems. This walkdown should evaluate the accuracy of drawings and other documentation for plant operation required to be maintained as configuration control documents.

- CM-2** The facility systems, as affected by facility modifications, are consistent with the description of the facility, procedures, and accident analysis included in the safety basis. (Core Requirement Nos. 4 and 15)

Criteria

1. An adequate process has been implemented to ensure that documentation for systems critical to the safety of the facility exists and is kept current, as appropriate, for their safety functions and that documentation is available to the operators. (DOE-STD-1073-93, Chapter 1.3)
2. Drawings and other documentation relied upon for operations are consistent with the existing plant configuration. (DOE-STD-1073-93, Chapter 1.3)

Approach

Record Review: Review the listing of safety systems and components to ensure consistency with the safety basis. Review the configuration management process to ensure it will maintain up-to-date plant configurations. Review records for temporary modifications and verify required analysis is conducted and any required actions are implemented during the period the temporary modification is in place.

Interviews: None

Shift Performance: Observe in-progress work control for compliance with administrative requirements such as currency of drawings and procedures, USQ development and review, RWP implementation and other requirements. Walkdown a temporary modification, if one is in effect, and evaluate the accuracy of the temporary modification records and drawings.

- CM-3 The implementation status for associated S/RID is adequate for operations. Noncompliance items have been addressed.
(Core Requirement No. 7)

Criteria

1. All noncompliance issues are adequately addressed by DOE-approved CSAs or exemptions as required. The CSAs include an adequate technical basis and schedule for attaining compliance. Compensatory measures that are specified in the CSAs are adequately implemented.

Approach

Record Review: Review Compliance Packages, including all applicable CSAs, exemptions, and compensatory measures.

Interviews: If the S/RIDs are not fully implemented, interview management personnel to ensure they are aware of the noncompliance(s) and action necessary to fully implement the requirements as well as any interim compensatory measures.

Shift Performance: Where appropriate, observe the implementation of any specified compensatory measures within the facility to determine their effectiveness.

Emergency Management (EM)

(The contractor intends to take credit for a recent independent drill and corrective action plan.)

- EM-1** An Emergency Preparedness Program is established, sufficient numbers of qualified personnel are provided, and adequate facilities and equipment are available to ensure emergency preparedness is adequate for safe operations. (Core Requirement No. 8)

Criteria

1. The Emergency Preparedness Organization is established and functioning to support the operations organization. Functions, assignments, responsibilities, and reporting relationships are clearly defined, understood, and effectively implemented. It is adequately staffed with qualified personnel. (DOE Order 151.1)

Approach

Record Review: Review the documentation (e.g., administrative procedures, organizational charts, position descriptions, and internal memorandums) which establish the roles, responsibilities, interfaces, and staffing levels of the Emergency Preparedness organization that supports operations.

Interviews: Interview those emergency preparedness personnel who are responsible for providing support to operations during emergency events to determine if they are familiar with their roles, responsibilities, and interfaces with the operations organization.

Shift Performance: None.

- EM-2** Level of knowledge of Operations-support personnel is adequate, based on reviews of examinations and examination results and selected interviews of operations support personnel. (Core Requirement No. 3)

Criteria

1. Emergency Preparedness-support personnel demonstrate the ability to carry out emergency procedures under their cognizance. (DOE Order 151.1)

2. Emergency Preparedness-support personnel demonstrate a working knowledge of facility systems and components related to safety. These personnel also give adequate attention to health, safety, and environmental protection issues. (DOE Order 151.1)

Approach

Record Review: Review, for adequacy and completion, the training records which indicate Emergency Preparedness-support personnel training on facility procedures and systems under their cognizance as well as system and facility hazards.

Interviews: Interview Emergency Preparedness-support personnel to assess their understanding of their actions when responding to abnormal and emergency conditions as well as their understanding of how these actions relate to the safety basis for operations. Interview these personnel to determine if their level of knowledge of plant operations hazards, health, safety and environmental protection issues is adequate. Interview personnel responsible for the drill program to determine if their level of knowledge of plant operations is adequate.

Shift Performance: Observe drills, routine evolutions, and normal operations to assess the ability of emergency preparedness support personnel to safely operate systems and components under their cognizance in accordance with approved plant procedures.

- EM-3** An emergency operations drill program, including program records, has been established and implemented. (Core Requirement No. 9)

Criteria

1. An effective Emergency Preparedness Program has been established. Drills and exercises are conducted, and an adequate response capability exists. (DOE Order 151.1)

Approach

Record Review: Review the records that describe the recent emergency preparedness drills and review the results from each. Determine if the drill scenarios were adequate and if the necessary number of drills have been conducted to fully verify and test compliance with the approved safety bases of the facility. Determine if lessons learned from drills are factored into following drills and training.

Interviews: None.

Shift Performance: Observe predrill briefings, conduct, and post-drill critiques of an emergency preparedness drill.

- EM-4 The implementation status for DOE Order 151.1 and associated S/RID is adequate for operations. Noncompliance items have been addressed. (Core Requirement No. 7)

Criteria

1. All noncompliance issues are adequately addressed by DOE-approved CSAs or exemptions. The CSAs include an adequate technical basis and schedule for attaining compliance. Compensatory measures that are specified in the CSAs are adequately implemented.

Approach

Record Review: Review Order Compliance Packages for the listed Orders, including all applicable CSAs, exemptions, and compensatory measures.

Interviews: If these Orders are not fully implemented, interview management personnel to ensure they are aware of the noncompliance(s) and action necessary to fully implement the Order requirements as well as any interim compensatory measures.

Shift Performance: Where appropriate, observe the implementation of any specified compensatory measures within the facility to determine their effectiveness.

Engineering (EN)

- EN-1 An Engineering-Support Program is established, sufficient numbers of qualified personnel are provided, and adequate facilities and equipment are available to ensure engineering support services are adequate for safe operations. (Core Requirement No. 8)

Criteria

1. The Engineering-Support Organization is established and functioning to support the operations organization. Functions, assignments, responsibilities, and reporting relationships are clearly defined, understood, and effectively implemented. They are adequately staffed with qualified personnel. (DOE Order 5480.19, Chapter VIII; DOE Order 5700.6C, para. 9.b.(1); 10 CFR 830.120; DOE Order 5480.20A, Chapters I and 4)

Approach

Record Review: Review the documentation (e.g., administrative procedures, organizational charts, position descriptions, and internal memoranda) which establish the roles, responsibilities, interfaces, and staffing levels of the Engineering-Support Organization that support operations.

Interviews: Interview personnel to determine if they are familiar with their support and interface responsibilities to the operations organization.

Shift Performance: While observing evolutions and drill response, determine if support services personnel are providing adequate support to the Operations Organization and if attention is given to health, safety, and environmental protection issues.

- EN-2 Level of knowledge of support personnel is adequate, based on reviews of examinations and examination results and selected interviews. (Core Requirement No. 3)

Criteria

1. Engineering-support personnel demonstrate the ability to carry out normal, abnormal, and emergency procedures under their cognizance. (DOE Order 5480.19, Chapter VIII; DOE Order 5700.6C, para. 9.b.(1)(b); DOE Order 5480.20A, Chapter I)
2. Engineering-support personnel demonstrate a working knowledge of design criteria and associated standards, facility systems, and components related to safety. These personnel also give adequate attention to health, safety and environmental protection issues. (DOE Order 5480.19, Chapter VIII; DOE Order 5700.6C; DOE Order 5480.20A, Chapter 1)
3. Entry-level requirements are established for each Engineering-support position and include, as applicable, the minimum education, experience, technical, and medical requirements. (DOE Order 5480.20A, Chapters 1 and 4)

Approach

Record Review: Review for adequacy and completion the training records which indicate Engineering-support personnel training on facility procedures and systems. Review procedures or policies that describe the personnel selection and entry-level requirements.

Interviews: Interview Engineering-support personnel to assess their understanding of their actions when responding to abnormal and emergency conditions as well as their understanding of how these actions relate to the safety basis for operations. Interview these personnel to determine if their level of knowledge is adequate to assist the operations organization in maintaining safe operations. Evaluate their familiarity with process system operations and abnormal operations as they apply to their responsibilities for EUO. Determine if they have an adequate knowledge of health, safety, and environmental issues.

Shift Performance: Observe drills, routine evolutions and normal operations, to assess the ability of Engineering-support personnel in accordance with approved plant procedures. Verify that adequate attention is given to health, safety, and environmental protection issues.

- EN-3 The implementation status for and associated S/RID is adequate for operations. Noncompliance items have been addressed. (Core Requirement No. 7)

Criteria

1. All noncompliance issues are adequately addressed by DOE-approved CSAs or exemptions as required. The CSAs include an adequate technical basis and schedule for attaining compliance. Compensatory measures that are specified in the CSAs are adequately implemented.

Approach

Record Review: Review Compliance Packages, including all applicable CSAs, exemptions, and compensatory measures.

Interviews: If the S/RIDs are not fully implemented, interview management personnel to ensure they are aware of the noncompliance(s) and action necessary to fully implement the requirements as well as any interim compensatory measures.

Shift Performance: Where appropriate, observe the implementation of any specified compensatory measures within the facility to determine their effectiveness.

Fire Protection (FP)

FP-1 A Fire Protection Program is established, sufficient numbers of qualified personnel are provided, and adequate facilities and equipment are available to ensure fire protection-support services are adequate for safe operations. (Core Requirement No. 8)

Criteria

1. The Fire Protection Organization is established and functioning to support the operations organization. Functions, assignments, responsibilities, and reporting relationships are clearly defined, understood, and effectively implemented. It is adequately staffed with qualified personnel. (DOE Order 5480.7A, para. 9)
2. The Fire Protection Program has established methods to ensure that fire protection systems are maintained, life safety of facilities are ensured and administrative controls are in place to minimize fire hazards and control fire events. (DOE Order 5480.7A, para. 9)
3. The Fire Protection Program has produced and maintained a fire hazards analysis for the facility that describes the fire hazards, the mitigating features and impact on safety class equipment. Fire protection deficiencies are identified and compensatory actions are established as required. (DOE Order 5480.7A, para. 9)

Approach

Record Review: Review the documentation (e.g., administrative procedures, organizational charts, position descriptions, and internal memorandums), which establishes the roles, responsibilities, interfaces, and staffing levels for the Fire Department group, that supports operations. Determine if the Fire Department group that supports operations is providing adequate support to the operations organization and that they are giving adequate attention to health, safety, and environmental protection issues.

Interviews: Interview selected Fire Department, Fire Engineering, and surveillance personnel to determine if they are familiar with their roles, responsibilities, and interfaces with the operations organization.

Shift Performance: Walk down the facilities to determine if the material condition of the fire detection and suppression equipment and fire boundaries adequately reflect documented needs and if combustibles are suitably controlled.

FP-2 Level of knowledge of Operations-support personnel is adequate, based on reviews of examinations, examination results, and selected interviews of operations support personnel. (Core Requirement No. 3)

Criteria

1. Fire Protection-support personnel demonstrate the ability to carry out normal, abnormal, and emergency procedures under their cognizance. (DOE Order 5480.7A, para. 9; DOE Order 5480.20A, Chapters I and IV)
2. Fire Protection-support personnel demonstrate a working knowledge of facility systems and components related to safety. These personnel also give adequate attention to health, safety and environmental protection issues. (DOE Order 5480.7A, para. 9.b.; DOE Order 5480.20A, Chapters I and IV; DOE Order 5700.6C, Criteria II; 10 CFR 830.120)

Approach

Record Review: Review, for adequacy and completion, the training records which indicate Fire Protection-support personnel training on facility procedures and systems under their cognizance as well as system and facility hazards.

Interviews: Interview Fire Protection-support personnel to assess their understanding of their actions when responding to abnormal and emergency conditions as well as their understanding of how these actions relate to the safety basis for operations. Interview the personnel designated for emergency response actions to determine if they have been trained to anticipate, recognize, evaluate, and respond to fire hazards. Assess their understanding of health, safety, and environmental protection issues.

Shift Performance: Observe or review records of drills, routine evolutions and normal operations to assess the ability of fire protection-support personnel to safely operate systems and components under their cognizance in accordance with approved plant procedures.

FP-3 The implementation status of DOE Order 5480.7A and associated S/RID is adequate for operation. Noncompliance issues have been addressed. (Core Requirement No. 7)

Criteria

1. All noncompliance issues are adequately addressed by DOE-approved CSA, equivalencies, and exemptions. The CSAs include an adequate technical basis and schedule for attaining compliance.
2. Compensatory measures that are specified in the CSAs are adequately implemented.

Approach

Record Review: Review Order Compliance Packages for the listed Orders, including all applicable CSAs, equivalencies, exemptions, and compensatory measures.

Interviews: If this Order is not fully implemented, interview management personnel to ensure they are aware of the noncompliance(s) and action necessary to fully implement the Order requirements as well as any interim compensatory measures.

Shift Performance: Where appropriate, observe the implementation of any specified compensatory measures within the facility to determine their effectiveness.

Maintenance (MT)

MT-1 A Maintenance Management Program is established, sufficient numbers of qualified personnel are provided, and adequate facilities and equipment are available to ensure maintenance services are adequate for safe operations. (Core Requirement No. 8)

Criteria

1. The Maintenance Organization is established and functioning to support the Operations organization. Functions, assignments, responsibilities, and reporting relationships are clearly defined, understood, and effectively implemented. It is adequately staffed with qualified personnel. (DOE Order 4330.4B, Chapter II, Sections 2 and 3)
2. The Maintenance Program conforms to the guidance provided in DOE Order 4330.4B and the appropriate S/RID.
3. The maintenance backlog is controlled, prioritized, and minimized. Work, relating to safety components, protecting the environment, and ensuring safety and health, receives a higher priority than other items. (DOE Order 4330.4B, Chapter II, Sections 5 and 7)
4. Measuring and test equipment (M&TE) and installed process equipment used to ensure the proper operation of safety systems are identified, available, and calibrated. (DOE Order 4330.4B, Chapter II, Section 12)
5. Processes to ensure that approved suppliers continue to provide acceptable items and services have been established and are effectively implemented.

Approach

Record Review: Review the documentation (e.g., administrative procedures, organizational charts, position descriptions, or internal memorandums) which establish the roles, responsibilities, interfaces, and staffing levels for the Maintenance Organization. Review the recent records and program procedures to ensure that the maintenance program includes the requirements of the Order. The Maintenance Implementation Plan (MIP) has been submitted and approved. Review completed maintenance work packages and associated maintenance procedures for

facility safety systems. Review the maintenance backlog listing and job priority. Review M&TE and installed process instrumentation recall and calibration records. Review the requirements to ensure that counterfeit or suspect spare parts are effectively addressed.

Interviews: Interview personnel to determine if they are familiar with their support and interface responsibilities to the operations organization. Interview maintenance planners and supervisors responsible for developing, reviewing, and approving work packages. Interview personnel responsible for prioritizing work requests and establishing maintenance schedules. Interview maintenance personnel to assess their understanding of the maintenance program.

Shift Performance: While observing evolutions and drill response, determine if maintenance personnel are providing adequate support to the Operations Organization, and attention is given to health, safety and environmental protection issues. Observe the use of M&TE for maintenance activities. Observe the performance of maintenance, including post-maintenance testing, in the facility on safety systems. Observe the status of safety systems during normal operations. Spot-check calibration for installed instruments/gauges (Category 1) and M&TE for currency.

MT-2 Level of knowledge of Operations-support personnel is adequate based on reviews of examination and examination results and selected interviews of operations support personnel. (Core Requirement No. 3)

Criteria

1. Maintenance-support personnel demonstrate the ability to carry out normal, abnormal, and emergency procedures under their cognizance. (DOE Order 4330.4B, Chapter II, Section 5; DOE Order 5480.20A, Chapters I and IV)
2. Maintenance-support personnel demonstrate a working knowledge of facility systems and components related to safety. These personnel also give adequate attention to health, safety and environmental protection issues. (DOE Order 4330.4B, Chapter II, Section 5; DOE Order 5480.20A, Chapters I and IV; DOE Order 5700.6C; 10 CFR 830.120)

3. Entry-level requirements are established for each maintenance position and includes as applicable the minimum education, experience, technical, and medical requirements. (DOE Orders 5480.20A, Chapters I and IV)

Approach

Record Review: Review for adequacy and completion of the training records which indicate Maintenance-support personnel training on facility procedures and systems. Review procedures or policies to ensure that they describe the personnel selection and entry-level requirements.

Interviews: Interview Maintenance-support personnel to assess their understanding of their actions when responding to abnormal and emergency conditions as well as their understanding of how these actions relate to the safety basis for operations. Determine if these personnel have an adequate knowledge of health, safety, and environmental protection issues.

Shift Performance: Observe drills, routine evolutions and normal operations to assess the ability of Maintenance-support personnel to safely operate systems and components in accordance with approved plant procedures.

- MT-3 The implementation status of DOE Order 4330.4B and associated S/RID is adequate for operations. Noncompliance issues have been addressed. (Core Requirement No. 7)

Criteria

1. All noncompliance issues are adequately addressed by DOE-approved CSAs or exemptions. The CSAs include an adequate technical basis and schedule for attaining compliance.
2. Compensatory measures that are specified in the CSAs are adequately implemented.

Approach

Record Review: Review the Order compliance package for the listed Orders. Ensure compliance with the Maintenance Implementation Plan is being followed.

Interviews: If this Order is not fully implemented, interview management personnel to ensure they are aware of the noncompliance(s) and action necessary to fully implement the Order requirements as well as all interim compensatory measures.

Shift Performance: Where appropriate, observe the implementation of any specified compensatory measures within the facility to determine their effectiveness.

Management Systems (MS)

- MS-1** A process has been established to identify, evaluate, and resolve deficiencies and recommendations made by oversight groups, official review teams, audit organizations, and the operating contractor. (Core Requirement No. 6)

Criteria

1. A system for identifying, reviewing, cataloging, and resolving deficiencies and recommendations is adequately implemented. (DOE Order 5480.19, Chapters VI and VIII; DOE Order 5700.6C; 10 CFR 830.120)

Approach

Record Review: Review the issue management tracking system, selecting representative issues and assessing the adequacy of the program. Assess the backlog and prioritization system for reducing it.

Interviews: Interview issue management personnel to establish their qualification and understanding of the program.

Shift Performance: Evaluate the effectiveness of the Issue Management Programs in ensuring that corrective actions are being completed and tracked to closure through the system.

- MS-2** The results of the responsible contractor's "Readiness Determination Process" are adequate to verify the readiness of hardware, personnel, and management programs for safe operations. (Core Requirement No. 17)

Criteria

1. The scope of the corporate readiness determination is adequate for assessing the areas of health, safety, and environment and verifies the satisfactory implementation of the restart plan. Identified issues and deficiencies are appropriately categorized and dispositioned. (DOE Order 425.1, para. 9.b.(10))

Approach

Record Review: Review the corporate readiness review plan, findings, recommendations, implementation plans, and schedules to ensure they are complete in scope and adequate in detail. Verify the rationale for corporate acceptance of any noncompliance items. Determine whether the contractor has systematically analyzed findings for root causes and generic implications. Evaluate the effectiveness of discrepancy closure system.

Interviews: Interview Corporate Readiness Review Team personnel to establish their qualification and the adequacy of their review.

Shift Performance: Select previously identified findings to determine if corrective actions have been effective in resolving the issue.

- MS-3 A systematic review of the conformance of the facility to applicable Standards/Requirements has been performed, any nonconformance issues have been identified, and schedules for gaining compliance have been justified in writing and formally approved. (Core Requirement No. 7)

Criteria

1. A formal program has been established which ensures that the requirements of the DOE Standards/Requirements are identified and evaluated for compliance.

Approach

Record Review: Review the procedures used for conducting DOE Standards/Requirements compliance reviews to ensure that they contain adequate guidance for identifying requirements and assessing the status of compliance. The guidance provided for determining if noncompliance issues are start-up or non-start-up issues will also be assessed for adequacy. In coordination with the efforts of the team's other technical experts, determine if the procedures are being followed.

Interviews/Shift Performance: None.

- MS-4 A program is established to promote a sitewide safety culture. (Core Requirement No. 14)

Criteria

1. Site programs actively promote safety through a broad range of activities possibly including, but not limited to, safety bulletins, lessons-learned briefings and/or employee concerns programs. (DOE Order 5480.1B, Chapter IX; DOE Order 5480.29, para. 9.a.)

Approach

Record Review: Verify the existence and use of mechanisms (policies, procedures, etc.) which promote safety awareness including lessons learned and safety bulletins. Verify that programs exist that promote the identification and promulgation of safety concerns to employees and provide the opportunity for employee to report safety issues.

Interviews: Discussion of these issues is covered within CRADs covering operations and operations support personnel level of knowledge.

Shift Performance: None.

- MS-5** Functions, assignments, responsibilities, and reporting relationships are clearly defined, understood, and effectively implemented with line management responsibility for control of safety. (Core Requirement No. 11)

Criteria

1. A clear management structure is established, is approved, and is in place. This structure is implemented and is understood by the EUO staff. (DOE Order 5480.19, Chapters I and III)

Approach

None.

(Note: The approach to assess this criteria is subsumed in the approaches for operations and operations-support organizations. No additional criteria or approach is included here.)

- MS-6** The implementation status of DOE O 232.1 and associated S/RID is adequate for operation. Nonconformance items have been addressed. (Core Requirement No. 7)

Criteria

1. All noncompliance issues are adequately addressed by DOE-approved CSAs or exemptions. The CSAs include an adequate technical basis and schedule for attaining compliance.
2. Compensatory measures that are specified in the CSAs are adequately implemented.

Approach

Record Review: Review the Order compliance package for DOE Order 232.1A, including the applicable CSA, exemptions, and compensatory measures. Specifically, verify that requirements for CSA approval of the Authorization Basis Lists have been addressed.

Interviews: If these Orders are not fully implemented, interview management personnel to ensure that they are aware of the noncompliance(s) and action necessary to fully implement the Order requirements as well as current compensatory measures in the interim. Interview line managers to verify they understand their roles and responsibilities with respect to reporting, analyzing, and correcting Occurrence Reporting and Processing Systems (ORPS) reportable deficiencies.

Shift Performance: Where appropriate, observe the implementation of any specified compensatory measures within the facility to determine their effectiveness. Select a minimum of two ORPS reports that have been submitted by the contractor as final and verify that all corrective actions have been effectively implemented.

- MS-7** An adequate start-up test program has been developed that includes adequate plans for graded operations to simultaneously confirm operability of equipment, the viability of procedures, and the adequacy of training of operators. (Core Requirement No. 10)

Criteria

1. The plan is adequate and is being implemented. Specific hazards and evaluations, which cannot be addressed prior to commencement of operations, are included. (DOE Order 425.1)

Approach

Record Review: Evaluate the status of actions under the plan. Ensure a phased approach to normal operations and inclusion of procedures, operator qualification, and equipment start-up testing as required. Verify the plan includes mechanisms to deal with specific hazard and evaluations unique to operations.

Interviews/Shift Performance: None.

Nuclear Safety (NS)

NS-1 Facility safety documentation is in place that describes the safety envelope of the facility. The safety documentation should characterize the hazards/risks associated with the facility and should identify mitigating measures (systems, procedures, administrative controls, etc.) that protect workers and the public from those hazards/risks. (Core Requirement No. 4)

Criteria

1. A BIO for EUO has been prepared and approved by the DOE. (DOE Order 5480.23, para. 8)
2. The safety documentation addresses appropriate hazards/risks associated with operations necessary to protect the public, workers, and the environment from the safety and health hazards posed by the facility. (DOE Order 5480.23, para. 8)

Approach

Record Review: Review the EUO BIO, Safety Evaluation Report (SER), and other safety basis documentation to assess whether the safety basis adequately includes appropriate hazards/risks associated with EUO.

Interviews: None.

Shift Performance: None.

NS-2 A program is in place to confirm and periodically reconfirm the condition and operability of safety systems, including safety-related process systems and safety-related utility systems. This includes examinations of records of tests and calibrations of the safety system and other instruments monitoring LCO or that satisfy OSRs. All safety-related processes and utility systems are currently operable and are in satisfactory condition. (Core Requirement No. 5)

Criteria

1. Confirmation of continued compliance with safety requirements, including clearly defined surveillance intervals and periodic self-assessments, is required by procedures. Adequate surveillance test procedures and acceptance criteria have been

established to support safe operation and are consistent with the approved operating basis for the facility. (DOE Order 5480.22, paras. 9 and 10, Attachment 1, "Background;" DOE Order 5480.23, para. 8, Attachment 1, Section 4)

2. Completed surveillances and tests are reviewed and follow-up actions are documented. (DOE Order 5480.22, para. 9.e.; DOE Order 5480.19, Chapters I and II)

Approach

Record Review: Review the surveillance test-tracking system to assess the mechanisms used for scheduling, performing, reporting results, and dispositioning test deficiencies. Review the surveillance test program to determine that each safety requirement has a corresponding surveillance test. Review surveillance tests to determine if acceptance criteria are established and are met during the performance of periodic system testing. Verify that surveillance procedures are technically correct and implement the requirements of the OSRs and the safety basis documents. Review a listing of outstanding safety system deficiencies identified through the corrective maintenance program, preventive maintenance program, surveillance test program, or other reporting processes to assess the condition of facility systems to support safe operations. Review the results of QA and operations management assessments of the surveillance test program.

Interviews: Interview personnel associated with the surveillance test program to assess their understanding of program requirements and responsibilities. Interview operations and QA management to determine if self-assessments of the surveillance test program are implemented and effective. Determine if corrective actions from outside evaluations are also taken into account.

Shift Performance: Observe the performance of seven or more safety system surveillance tests. Walk down three or more safety-related systems to assess operability and condition, and verify that the status is consistent with the condition specified in the control room. Systems selected for these observations should be those frequently relied upon in the safety basis documentation as mitigators for events or accidents.

- NS-3** There are adequate and correct safety limits for operating and maintaining the designated process systems and utility systems. (Core Requirement No. 1)

Criteria

1. Operating and maintenance procedures implement applicable safety requirements and the associated LCO. (DOE Order 5480.22, para. 9.e.; DOE Order 5480.19, Chapter XVI)
2. The parameters indicating compliance with the safety requirements can be measured or physically verified. (DOE Order 5480.22, para. 9.e)

Approach

Record Review: Select three safety requirements and determine if associated operating and maintenance procedures implement the LCO.

Interviews: None.

Shift Performance: Observe the performance of surveillance test and operator rounds to determine if safety system parameters used to verify compliance with safety requirements can be accurately verified.

- NS-4 A Criticality Safety Program is established, sufficient numbers of qualified personnel are provided, and adequate facilities and equipment are available to ensure criticality safety support services are adequate for safe operations. (Core Requirement No. 8)

Criteria

1. A program is established and functioning to provide criticality safety support to the operations organization. Adequate numbers of qualified staff are available to provide support. (DOE Order 5480.24, para. 7.c.; DOE Order 5480.19, Chapters II and III)
2. CSRs are implemented in facility operating procedures. (DOE Order 5480.24, para. 7; DOE Order 5480.19, Chapter XVII)

Approach

Record Review: Review the documentation, which establishes the roles, responsibilities, and interfaces, that support criticality safety. Review EUO unit-process breakdown against CSR documents for coverage of fissile processes and upset conditions. Review plans and procedural requirements for nuclear CSEs to support EUO operations.

Interviews: Interview the safety analysis programs personnel that support criticality safety to determine if they are familiar with their roles, responsibilities, and interfaces with the operations and engineering design organizations.

Shift Performance: While observing normal evolutions, determine if operations personnel are cognizant of and adhere to criticality safety requirements in procedures.

- NS-5** The implementation status of DOE Orders 5480.22, 5480.23, and 5480.24 and of associated S/RID is adequate for operations. Noncompliance items have been addressed. (Core Requirement No. 7)

Criteria

1. All noncompliance issues are adequately addressed by DOE-approved CSA or exemptions. The CSAs include an adequate technical basis and schedule for attaining compliance. Adequate compensatory measures are specified in the CSAs, as necessary, and have been effectively implemented.

Approach

Record Review: Review Order Compliance Packages for the listed Orders, including all applicable CSAs, exemptions, and compensatory measures.

Interviews: For Orders that are not fully implemented, interview management personnel to ensure they are aware of this noncompliance and the actions necessary to fully implement the Order requirements as well as any interim compensatory measures.

Shift Performance: Where appropriate, observe the implementation of any specified compensatory measures within the facility to determine their effectiveness.

- NS-6** The facility systems, as-built and as affected by facility modifications, are consistent with the description of the facility, procedures, and accident analysis included in the safety basis. (Core Requirement Nos. 4 and 15)

Criteria

A program has been developed and implemented for the identification and disposition of Unreviewed Safety Question Determinations (USQDs). (DOE Order 5480.21, Para 10)

Approach

Record Review: Review dispositioned unreviewed safety questions (USQs)/USQDs for as-found conditions, design changes, special procedures and tests, and other proposed changes. Review initial USQ screenings and supporting USQ safety evaluations. Determine the status of all ongoing USQs and USQDs and evaluate their implications on operations. Review records for temporary modifications and verify required analysis is conducted and any required actions are implemented during the period the temporary modification is in place.

Interviews: Interview engineering personnel responsible for developing, reviewing, and approving USQDs and supporting safety analyses for as-found conditions and proposed facility activities to assess their understanding of the program, individual responsibilities, and safety basis documents.

Shift Performance: Observe in-progress work control for compliance with administrative requirements such as USQ reviews.

Occupational Safety and Health Administration/Industrial Hygiene (OS)

OS-1 Occupational Safety and Industrial Hygiene programs are established, sufficient numbers of qualified personnel are provided, and adequate facilities and equipment are available to ensure services are adequate for safe operations. (Core Requirement No. 8)

Criteria

1. The Occupational Safety and Industrial Hygiene Organization is established and functioning to support the operations organization. Functions, assignments, responsibilities, and reporting relationships are clearly defined, understood, and effectively implemented. They are adequately staffed with qualified personnel. (DOE Order 440.1 and applicable S/RIDs)
2. Occupational Safety and Industrial Hygiene programs are implemented and are consistent with DOE Orders and applicable industry standards. (DOE Order 440.1 and applicable S/RIDs)
3. Job hazard analyses are conducted routinely by experienced engineering, occupational safety, and industrial hygiene personnel in a coordinated effort to avoid hazardous and unsafe operations. (DOE Order 440.1 and applicable S/RIDs)
4. Industrial safety and hygiene-related equipment has been identified, reviewed, selected, maintained and, where applicable, tested to ensure adequate personnel protection. (DOE Order 440.1 and applicable S/RIDs)

Approach

Record Review: Review the documentation (e.g., administrative procedures, organizational charts, position descriptions, and internal memorandums) which establish the roles, responsibilities, interfaces, and staffing levels for the Occupational Safety and Industrial Hygiene group that supports operations. Review the necessary records and program procedures to ensure that Occupational Safety and Industrial Hygiene Programs continue to be implemented and are consistent with DOE Orders and applicable industry standards. Review the results of one-job hazard analysis and determine if any items should be followed up during the Shift Performance phase of the ORR.

Interviews: Interview the Occupational Safety and Industrial Hygiene personnel to determine if they are familiar with their roles, responsibilities, and interfaces with the operations organization.

Shift Performance: The Occupational Safety and Industrial Hygiene organization that supports operations will be requested to conduct at least one process hazard analysis. The person conducting this analysis will be accompanied by one of the SMEs to determine if the results of the analysis are accurate and provide meaningful feed back to the operations group, and that they are giving adequate attention to health, safety and environmental protection issues. Observe the role played by the Occupational Safety and Industrial Hygiene/Chemical Safety organization to ensure that they are proactive in their approach to safety during routine operations. Walk down the facilities to determine if appropriate industrial safety-/hygiene-related equipment is supplied, maintained, and reviewed to ensure the proper protection is provided to personnel.

OS-2 Level of knowledge of Operations-support personnel is adequate, based on reviews of examinations and examination results and selected interviews of operations support personnel. (Core Requirement No. 3)

Criteria

1. Occupational Safety and Industrial Hygiene-support personnel demonstrate the ability to carry out normal, abnormal, and emergency procedures under their cognizance. (DOE Order 440.1 and applicable S/RIDs)
2. Occupational Safety and Industrial Hygiene-support personnel demonstrate a working knowledge of facility systems and components related to safety. These personnel also give adequate attention to health, safety, and environmental protection issues. (DOE Order 440.1 and applicable S/RIDs)
3. Personnel have been trained to anticipate, recognize, evaluate, and respond to hazards that may be present in the workplace. (DOE Order 440.1 and applicable S/RIDs)

Approach

Record Review: Review for adequacy and completion the training records which indicate Occupational Safety and Industrial Hygiene-support personnel have received training on facility procedures and systems under their cognizance as well as system and facility hazards.

Interviews: Interview Occupational Safety and Industrial Hygiene-support personnel to assess their understanding of their actions in response to abnormal and emergency conditions as well as their understanding of how these actions relate to the safety basis for operations. Determine if these personnel have an adequate knowledge of health, safety, and environmental protection issues.

Shift Performance: Observe drills, routine evolutions and normal operations to assess the ability of Occupational Safety and Industrial Hygiene-support personnel to safely operate systems and components under their cognizance in accordance with approved plant procedures. During an actual job-hazard analysis, determine that the person conducting the analysis has an adequate level of knowledge of facility operations and hazards.

- OS-3 The implementation status of DOE Order 440.1, and associated S/RID is adequate for operation. Noncompliance items have been addressed. (Core Requirement No. 7)

Criteria

1. All noncompliance issues are adequately addressed by DOE-approved CSAs or exemptions. The CSAs include an adequate technical basis and schedule for attaining compliance. Compensatory measures that are specified in the CSAs are adequately implemented.

Approach

Record Review: Review Order compliance packages for the listed Orders, including all applicable CSAs, exemptions, and compensatory measures.

Interviews: If these Orders are not fully implemented, interview management personnel to ensure they are aware of the noncompliance(s) and action necessary to fully implement the Order requirements, as well as any interim compensatory measures.

Shift Performance: Where appropriate, observe the implementation of any specified compensatory measures within the facility to determine their effectiveness.

Packaging and Transportation (PK)

- PK-1** There are adequate and correct procedures and safety limits for operating the process systems and utility systems. (Core Requirement No. 1)

Criteria

1. Operating procedures implement applicable transportation safety requirements for onsite and offsite movement of materials. (49 CFR 100-199, DOE Order 460.1A)

Approach

Record Review: Compare procedures with applicable regulations and determine if the procedure implements all regulatory requirements.

Interviews: As needed for clarification.

Shift Performance: Observe implementation of the procedure for preparing Special Nuclear Material (SNM) packages for transfer to the warehouse for offsite shipment. Validate regulatory compliance.

- PK-2** Level of knowledge of Operations and Operations-support personnel is adequate based on reviews of examinations and examination results and selected interviews of operating and Operations-support personnel. (Core Requirement No. 3)

Criteria

1. Level of knowledge of personnel handling SNM packages and preparing them for transportation is adequate to operate safely. This includes knowledge of onsite requirements and federal regulations for offsite shipments. (49 CFR 100-199, DOE Order 460.1A)

Approach

Record Review: Review training records for personnel performing packaging and transportation functions. Determine if training is adequate address safety and compliance requirements.

Interviews: Interview personnel performing packaging and transportation functions to assess understanding of safety and compliance requirements applicable to those functions.

Shift Performance: None.

Quality Assurance (QA)

QA-1 A QA Program is established, sufficient numbers of qualified personnel are provided, and adequate facilities and equipment are available to ensure quality assurance services are adequate for safe operations. (Core Requirement No. 8)

Criteria

1. The QA Organization is established and functioning to support the operations organization. Functions, assignments, responsibilities, and reporting relationships are clearly defined, understood, and effectively implemented. It is adequately staffed with qualified personnel. (DOE Order 5700.6C, para. 9; 10 CFR 830.120)
2. The QA Program meets or exceeds the requirements and guidance provided in DOE Order 5700.6C. (DOE Order 5700.6C, para. 9)

Approach

Record Review: Review the documentation (e.g., administrative procedures, organizational charts, position descriptions, or internal memorandums) which establish the roles, responsibilities, interfaces, and staffing levels for the QA organization. Review the necessary records and program procedures to ensure that the QA program includes QA audits, a process for tracking, trending, and correcting conditions adverse to quality, self-assessments, verification that operational support organizations have implemented administrative controls to ensure compliance with federal and state regulations, and resolution of identified QA deficiencies.

A policy or procedure describes the long- and short-term requirements for performing program evaluations and provides guidance relative to who does the evaluations, how often evaluations are conducted, and how evaluations are conducted.

Interviews: Interview those QA personnel that support operations to determine if they are familiar with their roles, responsibilities, and interfaces with the operations organization. Verify adequate knowledge of site QA procedures.

Shift Performance: The QA Organization will be requested to conduct, at least, one surveillance. The person conducting this surveillance will be accompanied by one of the SMEs to determine if the results of the surveillance are accurate and to provide meaningful feedback to the operations group, and that they are giving adequate attention to health, safety and environmental protection issues.

QA-2 Level of knowledge of Operations-support personnel is adequate, based on reviews of examinations and examination results and selected interviews of operations support personnel. (Core Requirement No. 3)

Criteria

1. QA-support personnel demonstrate the ability to carry out normal, abnormal, and emergency procedures under their cognizance. (DOE Order 5480.20A, Chapter I; DOE Order 5700.6C, para. 9.b.(1)(b))
2. QA-support personnel demonstrate a working knowledge of QA requirements and facility systems and components related to safety. These personnel also give adequate attention to health, safety and environmental protection issues. (DOE Order 5480.20A, Chapter I; DOE Order 5700.6C; DOE Order 5480.19, Chapter 1)

Approach

Record Review: Review for adequacy and completion the training records which indicate QA-support personnel training on facility procedures and systems under their cognizance as well as system and facility hazards.

Interviews: Interview QA-support personnel to assess their understanding of their actions when responding to abnormal and emergency conditions and facility hazards as well as their understanding of how these actions relate to the safety basis for operations. Determine if these personnel have an adequate knowledge of health, safety, and environmental protection issues.

Shift Performance: Observe drills, routine evolutions and normal operations, to assess the ability of QA-support personnel to safely operate systems and components under their cognizance in accordance with approved plant procedures. Observe a QA surveillance to determine if the person conducting the surveillance has an adequate level of knowledge of facility operations and hazards.

QA-3 The implementation status of 10 CFR 830.120 and associated S/RID is adequate for operations. Noncompliance issues have been addressed. (Core Requirement No. 7)

Criteria

1. All noncompliance issues are adequately addressed by DOE-approved CSAs or exemptions. The CSAs include an adequate technical basis and schedule for attaining compliance.
2. Compensatory measures that are specified in the CSAs are adequately implemented. Implementation Plan for the QA Final Rule 10 CFR 830.120 is approved and on schedule.

Approach

Record Review: Review the Order compliance packages for 10 CFR 830.120, including all applicable CSAs, exemptions, and compensatory measures.

Review status of actions under the implementation plan for the QA Final Rule. Verify the plan is approved and the schedule is being met.

Interviews: If this Order is not fully implemented, interview Management personnel to ensure they are aware of the noncompliance(s) and action necessary to fully implement the Order requirements, as well as any interim compensatory actions.

Shift Performance: Where appropriate, observe the implementation of any specified compensatory measures within the facility to determine their effectiveness.

Radiological Protection (RP)

RP-1 Radiological Protection Programs are established, sufficient numbers of qualified personnel are provided, and adequate facilities and equipment are available to ensure operational support services are adequate for safe operations. (Core Requirement No. 8)

Criteria

1. The Radiological Protection Organization is established and functioning to support the operations organization. Functions, assignments, responsibilities, and reporting relationships are clearly defined, understood, and effectively implemented. It is adequately staffed with qualified personnel. (DOE Order 5480.19, Chapters II and VIII; 10 CFR 835)
2. The Radiological Protection Program meets or exceeds the requirements of 10 CFR 835 and DOE N 441.2, "*Radiological Protection for DOE Activities.*" (10 CFR 835 and DOE N 441.2)
3. The Radiation Protection Program appropriately implements the overall Y-12 Radiological Control Manual; addresses the radiological hazards unique to the facility for normal and abnormal conditions; and conducts evaluations for improvement and corrective actions. (10 CFR 835)

Approach

Record Review: Review the documentation (e.g., administrative procedures, organizational charts, position descriptions, or internal memorandums) which establish the roles, responsibilities, interfaces, and staffing levels for the radiological protection support organization. Review the necessary records and program procedures to ensure that the Radiological Control Program includes the above-identified items. Review records of radiation protection evaluations of off-normal occurrences with identified necessary corrective actions.

Interviews: Interview those selected radiation protection personnel that support operations to determine if they are familiar with their roles, responsibilities, and interfaces with the operations organization.

Shift Performance: While observing operations and maintenance evolutions and drill response, determine if the radiation protection personnel that

support operations are providing adequate support to the Operations Organization and that they are giving adequate attention to health, safety, and environmental issues. At least, one operations or maintenance evolution or drill will be conducted to specifically assess those items contained in 10 CFR 835.

RP-2 Level of knowledge of Operations-support personnel is adequate, based on reviews of examinations and examination results and selected interviews of Operations-support personnel. (Core Requirement No. 3)

Criteria

1. Radiological Protection-support personnel demonstrate the ability to carry out normal, abnormal, and emergency procedures under their cognizance. (DOE Order 5480.20A, Chapter I)
2. Radiological Controls-support personnel demonstrate a working knowledge of facility systems and components related to safety. These personnel also give adequate attention to health, safety, and environmental protection issues and are familiar with the radiological hazards present at the facility. (10 CFR 835; 10 CFR 830.120; DOE Order 5480.20A, Chapter I; DOE Order 5700.6C, Criteria II)
3. Radiological Protection-support personnel are knowledgeable of radiological requirements and principles and local radiological control policy and procedures. (10 CFR 835)

Approach

Record Review: Review the radiological-support personnel training records to verify training in radiological procedures, systems and facility, and system and hazards.

Interviews: Interview Radiological Protection-support personnel to assess their understanding of actions when responding to abnormal and emergency radiological conditions and facility hazards and their understanding of how these actions relate to the safety basis for operations. Determine if these personnel have an adequate knowledge of health, safety, environmental, and radiation protection procedures, principles, and issues.

Shift Performance: Observe drills, routine operations and maintenance evolutions, to assess the ability of radiological controls support

personnel to safely operate systems and components under their cognizance in accordance with approved plant procedures.

- RP-3 The status of compliance with 10 CFR 835 and the appropriate S/RID is adequate for operations. Noncompliances have been addressed. (Core Requirement No. 7)

Criteria

1. All noncompliance issues are adequately addressed under 10 CFR 820, *Procedural Rules for Nuclear Activities, which implements the provision of the Price-Anderson Amendments Act.*

Approach

Record Review: Review the Order Compliance Packages for the S/RID, including all applicable exemptions and compensatory measures. Verify that a compliance program is in effect for 10 CFR 835.

Review status of actions under the Implementation Plan for the Radiological Controls Final Rule. Verify that the Rule has been implemented and that there is a verification program in place.

Interviews: If these Standards/Requirements are not fully implemented, interview management personnel to ensure they are aware of the noncompliance(s) and action necessary to fully implement the Order requirements, as well as any interim compensatory measures.

Shift Performance: Where appropriate, observe the implementation of any specified compensatory measures within the facility to determine their effectiveness.

Training and Qualification (TQ)

TQ-1 A Training-Support Program is established, sufficient numbers of qualified training personnel are provided, and adequate facilities and equipment are available to ensure training-support services are adequate for safe operations. (Core Requirement No. 8)

Criteria

1. The Training-Support Organization is established and functioning to support the Operations Organization. Functions, assignments, responsibilities, and reporting relationships are clearly defined, understood, and effectively implemented. They are adequately staffed with qualified personnel. (DOE Order 5480.19, Chapter 1, Section B; 10 CFR 830.120)
2. An organization/person, within line management, is responsible for the implementation of the training and qualification program(s). (DOE Order 5480.20A, Chapter I)
3. Training facilities and equipment are adequate to support the training process. (DOE Order 5480.20A, Chapter I; DOE-STD-1070-94)
4. Instructors have the technical qualifications, including theory, practical knowledge, and experience, for the subject matter that they are assigned to teach. Procedures are developed and implemented to ensure that individual instructors, including on-the-job training (OJT) instructors, meet and maintain instructional and technical position qualification requirements. (DOE Order 5480.20A, Chapter I; DOE Order 5480.19, Chapter V)
5. A continuing instructional skills training program is implemented to maintain, improve, and update the knowledge skills of incumbent training staff, based, in part, on the results of instructor evaluations which include improvements needed for technical instructional knowledge and skills, the correction of identified instructional deficiencies, and training on new methods and equipment. (DOE Order 5480.20A, Chapter I)

Approach

Record Review: Review the documentation (e.g., administrative procedures, organizational charts, position descriptions, and internal memoranda) which establish the roles, responsibilities, interfaces, and staffing levels of the EUO Training Organization and the Training Organization within the support organizations. Review training records for training staff personnel and OJT training instructors, including results of written and oral evaluations, to ensure the training program is being formally administered and controlled. Review the Instructor Continuing Training Program.

Interviews: Interview personnel to determine if they are familiar with their support and interface responsibilities to the Operations Organization. Interview selected personnel on training topics identified through the record review to assess the effectiveness of the instructor training program. Interview training staff and OJT training personnel to determine if they have sufficient experience and qualifications for training tasks assigned.

Shift Performance: Observe training evolutions, including classroom, OJT training sessions and laboratory exercises, if possible, to verify program implementation and effectiveness. Evaluate training facilities to determine if they are conducive to the learning process and if classrooms and training settings are free from excessive disturbances and distractions. Evaluate the training staff's office and working spaces to determine if they are adequate to support the training being developed and presented.

- TQ-2** Training and qualification programs for operations and operations-support personnel have been established, documented, and implemented. (Core Requirement No. 2)

Criteria

1. Procedures are developed and implemented that describe the qualification process, including examinations for certification of operations and maintenance personnel, requalification, maintenance of proficiency, granting of exceptions and extensions, alternatives to educational requirements, remediation, and evaluations by facility and training management. (DOE Order 5480.20A, Chapter I)

2. Goals, objectives, and plans are in place to describe the implementation of the training and qualification programs. (DOE Order 5480.20A, Chapter I)
3. Classroom training is conducted in accordance with formal lesson plans based on established learning objectives. Written and oral examinations are used to evaluate trainee comprehension of training content. (DOE Order 5480.20A, Chapter I)
4. Training programs incorporate formal OJT and hands-on evaluation of skills. (DOE Order 5480.20A, Chapter I)
5. The qualification program includes requirements for successful completion of written, oral, and/or operational evaluations for operations and maintenance personnel. (DOE Order 5480.20A, Chapter I)
6. Procedures are in place to ensure that nonresident personnel will receive the proper training for unescorted access to EUO and are current in their training requirements. (DOE Order 5480.20A, Chapter I)

Approach

Record Review: Review training and qualification records for operations, maintenance personnel, Shift Technical Advisors, supervisors, and support organizations including results of written, oral and operational evaluations, as applicable, to ensure the training program is being formally administered and controlled. Verify that training records are maintained in an auditable manner and support management information needs by providing required data on each individual's training participation, performance, and qualification/certification.

Review the evaluation/self-assessment programs for involvement by facility and training management in program, instructor (classroom and OJT), and training materials assessment.

Review the remedial training programs for adequacy.

Review the EUO access-control procedures for positive control of nonresident personnel. Review training records of 10 nonresident personnel with access to EUO for currency in required training for unescorted access.

Review the written goals and objectives related to the implementation of the training and qualification processes and ensure that they are documented in strategic plans and mission statements and that the goals and objectives adequately address the current issues which are important to both contractor management and DOE.

Interviews: Interview training personnel to determine if they have sufficient experience and qualifications for assessing personnel whom they instruct and evaluate.

Shift Performance: Observe operator, operations support personnel, or supervisor examinations by attending oral or operational evaluations, or OJT. Verify that personnel demonstrate knowledge of activities and evolutions that were included in their training program.

TQ-3 The training and qualification programs encompass the range of duties and activities required to be performed. (Core Requirement No. 2)

Criteria

1. The tasks required for competent job performance are identified and documented through a systematic analysis of job requirements. The Training Program is based on the results of this analysis. Learning objectives are derived from the analysis. (DOE Order 5480.20A, Chapter I)
2. Requirements for continuing training have been adequately defined, and programs have been developed. Continuing training includes conduct of realistic drills to maintain proficiency in responding to abnormal and accident situations, including those involving radiological hazards. (DOE Order 5480.20A, Chapter I)
3. Training programs for operations and maintenance personnel include training on the requirements contained in the approved operating basis for the facility. (DOE Order 5480.20A, Chapter I)
4. Training programs for operations and maintenance personnel emphasize the importance of compliance with procedures and safety requirements. (DOE Order 5480.20A, Chapter I)
5. Training for technical staff personnel is based on an assessment of position duties and responsibilities. (DOE Order 5480.20A, Chapter I)

6. The Training Department uses post-training feedback, internal evaluations (self-assessment), and operating experience to modify the training program when needed. This includes:
- using feedback on training effectiveness from trainees and supervisors;
 - incorporating feedback from operating experience at the site and from other DOE sites;
 - conducting formal reviews of training effectiveness; and
 - incorporating comments from line management self-assessments and other audits. (DOE Order 5480.20A, Chapter I).

Approach

Record Review: Review operations and support organization lesson plans for incorporation of safety requirements, technical safety requirements (TSRs), OSRs, and procedure compliance. Review trainee feedback forms, training evaluations of lessons learned from operating experiences, and formal training program reviews to verify feedback is addressed in a formal manner. Review the continuing training program plan and drill schedule to verify its adequacy to support safe operations.

Review the systematic analysis of job requirements conducted to provide reasonable assurance that all tasks that are essential to safe, efficient operation are addressed by the training program.

Review to ensure that SMEs, line management, and training staff develop and maintain a valid facility-specific task list as the basis for the training program. The facility-specific list of tasks selected for training is reviewed periodically and updated, as necessary, by changes in procedures, facility systems/equipment, job scope, and advances in technology. DOE and other appropriate training guidelines are used as a guide for selecting, sequencing, and verifying training program structure and content.

Verify that the current facility BIO, operating procedures, technical and professional references, and facility/industry operating experience are used to identify facility-specific training content and information for use in developing training materials.

Review the degree to which OJT and hands-on evaluations for operations and support personnel are used to reinforce classroom activities.

Review examinations (both written and oral) and performance evaluations, to verify that they are based on learning objectives, are reviewed by SMEs, are changed frequently enough to avoid compromise, and are formally controlled.

Interviews: Interview training personnel responsible for continuing training and drill scenario development and implementation. Interview personnel responsible for establishing training needs for operations and support personnel.

Shift Performance: Observe operator and support personnel response to drills. Evaluate a continuing training classroom lecture, operational evaluations, or field training activity for technical and administrative adequacy.

- TQ-4** Modifications to the facility have been reviewed for potential impacts on training and qualification. Procedures have been revised to reflect that these modifications and training have been performed to these revised procedures. (Core Requirement No. 18)

Criteria

1. Qualification programs are based on the latest modifications to the facility. (DOE Order 5480.20A, Chapter I)
2. Training has been completed and documented for the latest revisions of procedures performed by operations personnel, supervisors, and shift technical advisors (STAs). (DOE Order 5480.20A, Chapter I)

Approach

Record Review: Review the process used to evaluate changes to operations and support personnel training needs. Review lesson plans and supporting examinations. Determine if lesson plans accurately reflect recent facility and/or procedure changes.

Interviews: Interview training personnel to determine their involvement with facility and/or procedural changes affecting lesson plans.

Shift Performance: Observe operations and support personnel in the performance of OJT. Observe classroom training or a field-training activity. During observation of operations involving procedures with revisions, verify proper conduct and understanding of the procedures by the operators.

- TQ-5 The implementation status of DOE Order 5480.20A and associated S/RID is adequate for operation. Noncompliance items have been addressed. (Core Requirement No. 7)

Criteria

1. All noncompliance issues are adequately addressed by DOE-approved CSA or exemptions. The CSAs include an adequate technical basis and schedule for attaining compliance. Compensatory measures that are specified in the CSAs are adequately implemented.

Approach

Record Review: Review the Order compliance package for DOE Order 5480.20A, including all applicable CSAs, exemptions and compensatory measures.

Interviews: If this Order is not fully implemented, interview management personnel to ensure that they are aware of the noncompliance(s) and action necessary to fully implement the Order requirements and all interim compensatory measures.

Shift Performance: Where appropriate, observe the implementation of any specified compensatory measures within the facility to determine their effectiveness.

- TQ-6 There are sufficient numbers of qualified operators to support safe operations. The technical and management qualifications of contractor personnel responsible for facility operations are adequate. (Core Requirement Nos. 13 and 19)

Criteria

1. Minimum staffing requirements have been established for operations personnel, supervisors, shift technical advisors, and managers. These staffing levels are met and are consistent with the basis for interim operation requirements and assumptions. (Facility Safety Basis Documentation)
2. Sufficient number of qualified operations personnel, supervisors, shift technical advisors, and managers are available to carry out facility operations. Staffing levels are consistent with the OSRs. (Facility Safety Basis Documentation)
3. Entry-level requirements are established for each operations position and include as applicable the minimum education, experience, technical, and medical requirements. (DOE Order 5480.20A)

Approach

Record Review: Review OSRs and Limiting Condition for Operations (LCOs) for staffing requirements. Compare with personnel records to assess the ability of the facility to field the required personnel.

Review the procedures or policies, which describe the personnel selection and entry-level requirements, to ensure they address the minimum physical attributes a trainee must possess, as well as the minimum educational, technical, and experience requirements necessary for the employee, to meet job requirements.

Interviews: Interview operators and supervisors to ensure they understand the minimum staffing requirements for all phases of facility operations.

Shift Performance: Assess staffing levels, while observing drills and routine evolutions, to determine if they are adequate and satisfy administrative and safety basis requirements.

Waste Management and Environmental Protection (WM)

WM-1 WM and EP Programs are established, sufficient numbers of qualified personnel are provided, and adequate facilities and equipment are available to ensure services are adequate for safe operations. (Core Requirement No. 8)

Criteria

1. All air emission sources from EUO facilities are identified and comply with air emission permits and associated regulations in accordance with the Clean Air Act.
2. All water discharges from EUO facilities are identified and comply with water discharge permits and associated regulations in accordance with the Clean Water Act.
3. All waste streams generated from EUO facilities are identified and characterized, proper waste accumulation/storage areas are established, appropriate waste permits have been obtained and comply with associated regulations, and appropriate procedures for transfer of waste to the waste management program are developed and implemented.
4. A plan for pollution prevention/waste minimization for the facility has been established and implemented.

Approach

Record Review: Review all environmental permits that have been issued for EUO and verify that the permit requirements have been implemented. Review the necessary records and procedures to ensure that hazardous and radioactive wastes are handled in accordance with appropriate legislative requirements.

Interviews: Interview EUO personnel to determine if they are familiar with EUO permit requirements.

Shift Performance: Perform assessments of EUO facilities to ensure compliance with applicable permits and requirements.

- WM-2 Level of knowledge of Operations and Operations-support personnel is adequate, based on reviews of examinations and examination results and selected interviews of operations and operations-support personnel. (Core Requirement No. 3)

Criteria

1. EUO personnel are trained according to requirements of applicable environmental permits.

Approach

Record Review: Review for adequacy and completion, the training records which indicate EUO personnel have completed the required training.

Interviews: Interview selected EUO personnel to assess their understanding of environmental requirements.

Shift Performance: Perform assessments of EUO facilities to ensure compliance with applicable permits and requirements.

- WM-3 The implementation status of DOE Orders 5400.1, 5400.5, 5480.4, 5482.1B, 5820.2A, and associated S/RID is adequate for operations. Noncompliance issues have been addressed. (Core Requirement No. 7)

Criteria

1. All EUO operations comply with applicable environmental protection S/RIDs or are adequately addressed by DOE-approved CSAs or exemptions. Any compensatory measures that are specified in the CSAs are adequately implemented.

Approach

Record Review: Review environmental protection S/RIDs for applicability and flow down to EUO operations.

Interviews: Ensure EUO personnel are knowledgeable of environmental protection S/RID requirements.

Shift Performance: Where appropriate, observe the implementation of any specified compensatory measures within the facility to determine their effectiveness.

12.4 Functional Area CRADs - Phase A2

Conduct of Operations (OP)

OP-1 Level of knowledge of Operations personnel is adequate based on selected interviews and observations of performance of Operations personnel.
(Core Requirement No. 3)

Criteria

1. Operations personnel retain a practical and adequate understanding of facility systems and operations. These personnel also give adequate attention to and retain an adequate knowledge of health, safety, and environmental protection issues. (DOE Order 5480.19, Chapter XIII; DOE Order 5480.20A, Chapters I and IV; DOE Order 5700.6C, Criteria II)
2. Operators personnel demonstrate the ability to carry out normal, abnormal, and emergency procedures. (DOE Order 5480.19, Chapter XIII; DOE Order 5480.20A, Chapter I)
3. Operators demonstrate a working knowledge of facility systems and components related to safety. (DOE Order 5480.19, Chapter XIII; DOE Order 5480.20A, Chapter I)

Approach

Record Review: None

Interviews: Interview operators and their supervisors to assess their understanding of facility processes, procedures, OSRs, CSRs, and fundamentals of EUO processes as they relate to the restart effort.

Shift Performance: Observe operational drills, routine evolutions, and normal operations to assess technical understanding and ability of the operators and supervisors to conduct their duties and to safely operate systems and components in accordance with approved plant procedures.

Observe drills, routine evolutions, and normal operations to assess the ability of personnel to safely operate systems and components under their cognizance in accordance with approved plant procedures.

OP-3 The implementation status for DOE Order 5480.19 and appropriate S/RID is adequate for operations. Noncompliance issues have been addressed. (Core Requirements Nos. 7 and 12)

Criteria

1. Operations personnel demonstrate the principles of the conduct of operations requirements during the shift performance period. Adequate performance will be demonstrated in the elements for personnel and equipment associated only with Phase A2 processes as follow:
 - shift routines and operating practices (log-keeping, shift turnover, communications);
 - system control (control of equipment, control of plant systems via status boards, etc.);
 - procedures (procedure use and operator aids); and
 - housekeeping, including adequate control of hazardous materials, transient combustibles, and ignition sources. (DOE Order 5480.19, para. 4.)
2. All noncompliance issues are adequately addressed by DOE-approved compliance schedule agreements (CSA) or exemptions. The CSAs include an adequate technical basis and schedule for attaining compliance; and compensatory measures that are specified in the CSAs are adequately implemented.

Approach

Record Review: Review recently completed operations logs, shift turnover documents, and other plant records of note to assess compliance with conduct of operations principles.

Interviews: Interview operators and supervisors to assess their understanding of the conduct of operations principles in the performance of their duties.

If these Orders are not fully implemented, interview management personnel to ensure they are aware of the noncompliance(s) and action necessary to fully implement the Order requirements as well as current compensatory measures in the interim. Interview mentors to assess their

understanding of when they are acting as compensatory measures and what function they provide when they act as compensatory measures.

Shift Performance: While observing evolutions and drill response, determine if the facility is effectively implementing the conduct of operations requirements. Attend shift turnovers, prejob briefings, operator rounds, panel walkdowns, procedure use, communications, and response to alarms, control of system status, and lockout/tagout activities.

Where appropriate, observe the implementation of any specified compensatory measures within the facility to determine their effectiveness.

- OP-4** Adequate and correct procedures are available for operating and maintaining the process systems and designated utility systems. Procedures have been revised to reflect modifications to the facility. Procedures, as affected by facility modifications, are consistent with the description of the facility, procedures, and accident analysis included in the safety basis. (Core Requirement Nos. 1, 15, and 18)

Criteria

1. Operations and surveillance procedures meet or exceed the requirements of the guidance provided in DOE Order 5480.19. (DOE Order 5480.19, Chapter XVI; DOE Order 5700.6C, para. 9.b.(2)(a); DOE Order 4330.4B, Chapter II)
2. Operations and surveillance procedures adequately implement and are consistent with the approved safety basis.
3. Procedures are available to the operators to enable them to monitor and control the safe operation of the plant under normal, abnormal, and emergency conditions in compliance with DOE Order 5480.19 and the appropriate S/RID. Procedures are developed, approved, controlled, and changed consistent with the requirements of the appropriate S/RID. (DOE Order 5480.19, Chapter XVI; DOE Order 5480.22, para. 9.; DOE Order 5700.6C, para. 9)

Approach

Record Review: Review validation, walkdown, and reviewer comments for recent procedural changes on safety systems. Review procedures for implementation of the safety envelope. Assess the currency of

implementation of the safety envelope. Assess the currency of procedures, and verify that current configuration of safety systems is reflected in operations and surveillance procedures.

Interviews: Interview operators and supervisors to assess their understanding of the temporary procedure change process and how they verify the latest approved revision of a procedure. Interview operator and supervisors and assess their understanding of site procedure compliance policy.

Shift Performance: While observing evolutions and drill response, determine if the facility procedures are adequate in content, level of detail, and acceptance criteria, and properly implement safety requirements. If temporary procedural changes are necessary, assess the steps taken by an operator and his supervisor in the review-and-approval process. Verify that procedures used by the operators are properly controlled to ensure only the latest revision is used. Verify that operators are following site procedure compliance policy.

Management Systems (MS)

MS-2 The results of the responsible contractor's "Readiness Determination Process" are adequate to verify the readiness of hardware, personnel, and management programs for safe operations. (Core Requirement No. 17)

Criteria

1. The scope of the corporate readiness determination is adequate for assessing the areas of health, safety, and environment and verifies the satisfactory implementation of the restart plan. Identified issues and deficiencies are appropriately categorized and dispositioned. (DOE Order 425.1, para. 9.b.(10))

Nuclear Safety (NS)

NS-1 Facility safety documentation is in place that describes the safety envelope of the facility. The safety documentation should characterize the hazards/risks associated with the facility and should identify mitigating measures (systems, procedures, administrative controls, etc.) that protect workers and the public from those hazards/risks. (Core Requirement No. 4)

Criteria

1. A BIO for EUO has been prepared and approved by the DOE. (DOE Order 5480.23, para. 8)
2. The safety documentation addresses appropriate hazards/risks associated with operations necessary to protect the public, workers, and the environment from the safety and health hazards posed by the facility. (DOE Order 5480.23, para. 8)

Approach

Record Review: Review the EUO BIO, Safety Evaluation Report (SER), and other safety basis documentation to assess whether the safety basis adequately includes appropriate hazards/risks associated with EUO.

Interviews: None.

Shift Performance: None.

NS-2 A program is in place to confirm and periodically reconfirm the condition and operability of safety systems, including safety-related process systems and safety-related utility systems. This includes examinations of records of tests and calibrations of the safety system and other instruments monitoring LCO or that satisfy OSRs. All safety-related processes and utility systems are currently operable and are in satisfactory condition. (Core Requirement No. 5)

Criteria

1. Confirmation of continued compliance with safety requirements, including clearly defined surveillance intervals and periodic self-assessments, is required by procedures. Adequate surveillance test procedures and acceptance criteria have been established to support safe operation and are consistent with the

approved operating basis for the facility. (DOE Order 5480.22, paras. 9 and 10, Attachment 1, "Background;" DOE Order 5480.23, para. 8, Attachment 1, Section 4)

2. Completed surveillances and tests are reviewed and follow-up actions are documented. (DOE Order 5480.22, para. 9.e.; DOE Order 5480.19, Chapters I and II)

Approach

Record Review: Review the surveillance test-tracking system to assess the mechanisms used for scheduling, performing, reporting results, and dispositioning test deficiencies. Review the surveillance test program to determine that each safety requirement has a corresponding surveillance test. Review surveillance tests to determine if acceptance criteria are established and are met during the performance of periodic system testing. Verify that surveillance procedures are technically correct and implement the requirements of the OSRs and the safety basis documents. Review a listing of outstanding safety system deficiencies identified through the corrective maintenance program, preventive maintenance program, surveillance test program, or other reporting processes to assess the condition of facility systems to support safe operations. Review the results of QA and operations management assessments of the surveillance test program.

Interviews: Interview personnel associated with the surveillance test program to assess their understanding of program requirements and responsibilities. Interview operations and QA management to determine if self-assessments of the surveillance test program are implemented and effective. Determine if corrective actions from outside evaluations are also taken into account.

Shift Performance: Observe the performance of seven or more safety system surveillance tests. Walk down three or more safety-related systems to assess operability and condition, and verify that the status is consistent with the condition specified in the control room. Systems selected for these observations should be those frequently relied upon in the safety basis documentation as mitigators for events or accidents.

- NS-3** There are adequate and correct safety limits for operating and maintaining the designated process systems and utility systems. (Core Requirement No. 1)

Criteria

1. Operating and maintenance procedures implement applicable safety requirements and the associated LCO. (DOE Order 5480.22, para. 9.e.; DOE Order 5480.19, Chapter XVI)
2. The parameters indicating compliance with the safety requirements can be measured or physically verified. (DOE Order 5480.22, para. 9.e)

Approach

Record Review: Select three safety requirements and determine if associated operating and maintenance procedures implement the LCO.

Interviews: None.

Shift Performance: Observe the performance of surveillance test and operator rounds to determine if safety system parameters used to verify compliance with safety requirements can be accurately verified.

Approach

Record Review: Review the corporate readiness review plan, findings, recommendations, implementation plans, and schedules to ensure they are complete in scope and adequate in detail. Verify the rationale for corporate acceptance of any noncompliance items. Determine whether the contractor has systematically analyzed findings for root causes and generic implications. Evaluate the effectiveness of discrepancy closure system.

Interviews: Interview Corporate Readiness Review Team personnel to establish their qualification and the adequacy of their review.

Shift Performance: Select previously identified findings to determine if corrective actions have been effective in resolving the issue.

Radiological Protection (RP)

RP-2 Level of knowledge of operations-support personnel is adequate, based on reviews of examinations and examination results and selected interviews of operations support personnel. (Core Requirement No. 3)

Criteria

1. Radiological Protection-support personnel demonstrate the ability to carry-out normal, abnormal, and emergency procedures under their cognizance. (DOE Order 5480.20A, Chapter I)
2. Radiological Controls-support personnel demonstrate a working knowledge of facility systems and components related to safety. These personnel also give adequate attention to health, safety, and environmental protection issues and are familiar with the radiological hazards present at the facility. (10 CFR 835; 10 CFR 830.120; DOE Order 5480.20A, Chapter I; DOE Order 5700.6C, Criteria II)
3. Radiological Protection-support personnel are knowledgeable of radiological requirements and principles, and local radiological control policy and procedures. (10 CFR 835)

Approach

Record Review: Review the radiological-support personnel training records to verify training in radiological procedures, systems and facility, and system and hazards.

Interviews: Interview Radiological Protection-support personnel to assess their understanding of actions when responding to abnormal and emergency radiological conditions and facility hazards and their understanding of how these actions relate to the safety basis for operations. Determine if these personnel have an adequate knowledge of health, safety, environmental, and radiation protection procedures, principles, and issues.

Shift Performance: Observe drills, routine operations and maintenance evolutions, to assess the ability of radiological controls support personnel to safely operate systems and components under their cognizance in accordance with approved plant procedures.

Training and Qualification (TQ)

TQ-1 A Training-Support Program is established, sufficient numbers of qualified training personnel are provided, and adequate facilities and equipment are available to ensure training-support services are adequate for safe operations. (Core Requirement No. 8)

Criteria

1. The Training-Support Organization is established and functioning to support the operations organization. Functions, assignments, responsibilities, and reporting relationships are clearly defined, understood, and effectively implemented. They are adequately staffed with qualified personnel. (DOE Order 5480.19, Chapter 1, Section B; 10 CFR 830.120)
2. An organization/person, within line management, is responsible for the implementation of the training and qualification program(s). (DOE Order 5480.20A, Chapter I)
3. Training facilities and equipment are adequate to support the training process. (DOE Order 5480.20A, Chapter I; DOE-STD-1070-94)
4. Instructors have the technical qualifications, including theory, practical knowledge, and experience, for the subject matter that they are assigned to teach. Procedures are developed and implemented to ensure that individual instructors, including on-the-job training (OJT) instructors, meet and maintain instructional and technical position qualification requirements. (DOE Order 5480.20A, Chapter I; DOE Order 5480.19, Chapter V)
5. A continuing instructional skills training program is implemented to maintain, improve, and update the knowledge skills of incumbent training staff, based, in part, on the results of instructor evaluations which include improvements needed for technical instructional knowledge and skills, the correction of identified instructional deficiencies, and training on new methods and equipment. (DOE Order 5480.20A, Chapter I)

Approach

Record Review: Review the documentation (e.g., administrative procedures, organizational charts, position descriptions, and internal

memoranda) which establish the roles, responsibilities, interfaces, and staffing levels of the EUO training organization and the training organization within the support organizations. Review training records for training staff personnel and OJT training instructors, including results of written and oral evaluations, to ensure the training program is being formally administered and controlled. Review the Instructor Continuing Training Program.

Interviews: Interview personnel to determine if they are familiar with their support and interface responsibilities to the Operations organization. Interview selected personnel on training topics identified through the record review to assess the effectiveness of the instructor training program. Interview training staff and OJT training personnel to determine if they have sufficient experience and qualifications for training tasks assigned.

Shift Performance: Observe training evolutions, including classroom, OJT training sessions and laboratory exercises, if possible, to verify program implementation and effectiveness. Evaluate training facilities to determine if they are conducive to the learning process and if classrooms and training settings are free from excessive disturbances and distractions. Evaluate the training staff's office and working spaces to determine if they are adequate to support the training being developed and presented.

TQ-3 The Training and Qualification programs encompass the range of duties and activities required to be performed. (Core Requirement No. 2)

Criteria

1. The tasks required for competent job performance are identified and documented through a systematic analysis of job requirements. The Training Program is based on the results of this analysis. Learning objectives are derived from the analysis. (DOE Order 5480.20A, Chapter I)
2. Requirements for continuing training have been adequately defined, and programs have been developed. Continuing training includes conduct of realistic drills to maintain proficiency in responding to abnormal and accident situations, including those involving radiological hazards. (DOE Order 5480.20A, Chapter I)
3. Training programs for operations and maintenance personnel include

training on the requirements contained in the approved operating basis for the facility. (DOE Order 5480.20A, Chapter I)

4. Training programs for operations and maintenance personnel emphasize the importance of compliance with procedures and safety requirements. (DOE Order 5480.20A, Chapter I)
5. Training for technical staff personnel is based on an assessment of position duties and responsibilities. (DOE Order 5480.20A, Chapter I)
6. The Training Department uses post-training feedback, internal evaluations (self-assessment), and operating experience to modify the training program when needed. This includes:
 - using feedback on training effectiveness from trainees and supervisors;
 - incorporating feedback from operating experience at the site and from other DOE sites;
 - conducting formal reviews of training effectiveness; and
 - incorporating comments from line management self-assessments and other audits. (DOE Order 5480.20A, Chapter I).

Approach

Record Review: Review Operations and Support Organizations lesson plans for incorporation of safety requirements, technical safety requirements (TSRs), OSRs, and procedure compliance. Review trainee feedback forms, training evaluations of lessons learned from operating experiences, and formal training program reviews to verify feedback is addressed in a formal manner. Review the continuing training program plan and drill schedule to verify adequacy to support safe operations.

Review the systematic analysis of job requirements conducted to provide reasonable assurance that all tasks that are essential to safe and efficient operation are addressed by the training program.

Review to ensure that SMEs, line management, and training staff develop and maintain a valid facility-specific task list as the basis for the training program. The facility-specific list of tasks selected for training is reviewed periodically and updated, as necessary, by changes

in procedures, facility systems/equipment, job scope, and advances in technology. DOE and other appropriate training guidelines are used as a guide for selecting, sequencing, and verifying training program structure and content.

Verify that the current facility BIO, operating procedures, technical and professional references, and facility/industry operating experience are used to identify facility-specific training content and information for use in developing training materials.

Review the degree to which OJT and hands-on evaluations for operations and support personnel are used to reinforce classroom activities.

Review examinations (both written and oral) and performance evaluations, to verify that they are based on learning objectives, are reviewed by SMEs, are changed frequently enough to avoid compromise, and are formally controlled.

Interviews: Interview training personnel responsible for continuing training and drill scenario development and implementation. Interview personnel responsible for establishing training needs for operations and support personnel.

Shift Performance: Observe operator and support personnel response to drills. Evaluate a continuing training classroom lecture, operational evaluations, or field training activity for technical and administrative adequacy.

12.5 Form 1, EUO Appraisal Form

EUO APPRAISAL FORM

FUNCTIONAL AREA: Safety Envelope	OBJECTIVE NUMBER: SE-1	DATE: 8/27/97
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OBJECTIVE: There are adequate and correct safety limits for operating systems.
(CORE REQUIREMENT #1)

CRITERIA: The Operational Safety Requirements for disassembly/assembly facilities are technically accurate and consistent with the physical facility configuration. The designated equipment and systems are present as described in the Operational Safety Requirements and the Operational Safety Requirements can be technically accomplished. Compliance with the applicable Operational Safety Requirements are verified. (5480.22, para 9.e, 54,80.19, Ch. XVI)

RECORDS REVIEWED:

- Y/ENG/SAD-021, System Analysis Document, Criticality Accident Alarm System, dtd 6/10/94
- Y/TS-816 FSAR Assembly, Disassembly & Warehouse Project dtd 9/86
- Disassembly & Assembly Criticality Safety Approvals
- System Analysis Document, Criticality Accident Alarm System, Y/ENG/SAD021, 6/15/94
- Y/TS-1314, Operational Safety Requirements for Buildings 9204-2 and 9204-2E Material Access Area, Revision 1, dtd 9/18/95
- Y50-01-B2-013, "Mop Water & Mop Head Disposal," dtd 2/19/96
- Y50-01-B2-025, "Walk-In Ventilation Hood Operation," dtd 1/12/96
- Y50-01-02-027, "Portable Fissile Vacuum Cleaner Operation," dtd 1/18/96

INTERVIEWS CONDUCTED:

- System Manager, Protective Services (Fire System)
- D/A Operations Manager
- D/A Shift Technical Advisor
- D/A Supervisor of Assembly Operators
- D/A Assembly Person
- CAAS Systems Expert, PSS
- Control Center Assistant, PSS
- D/A Lead Engineer
- Fire Protection Inspector (2)

SHIFT PERFORMANCE EVALUATION:

- Facility Tour

- Walkdown of CSAs B2E-14 and B2E-17
- CAAS Quarterly Alarm System Coverage Test
- Fire Sprinkler System Monthly Valve Position and Supply Pressure Test

DISCUSSION OF RESULTS:

Record Review: The D/A safety basis documentation was reviewed to determine the required safety envelope and to assess the adequacy of the D/A OSRS. The D/A safety basis documentation consists of a variety of safety analysis documents, hazards screenings, and safety studies. The existing SARs were developed on a functional level; they address specific programs at the Y-12 Site. The SARs were not developed at a facility level to address all activities performed in each of the D/A facilities. The safety basis documentation is supplemented by a rigorous Criticality Safety Approval (CSA) program. CSAs are documents initiated by D/A Operations to request approval from the Nuclear Criticality Safety Department (NCSA) to perform administrative and physical changes within the D/A facility. The OSRs for D/A contain the LCOs and surveillance requirements for the two D/A safety systems, the criticality accident alarm system (CAAS) and the sprinkler system. The OSRs also describe administrative controls and require the use of CSAs.

The OSRs also require a Nuclear Criticality Safety Program to ensure comprehensive review of Fissile Material Activities and ensure nuclear criticality safety. An OSR surveillance requirement requires an annual verification of compliance with all CSAs. The Facility Operations group performs a self-assessment of all active CSAs on an annual basis. The indicate the program is formally documented. Records of the program program is current and discrepancies are documented and tracked to closure. The NCSA has implemented an external monitoring program which verifies CSA compliance through the performance of CSA walkdowns which consist of Criticality Engineers performing audits of CSAs in conjunction with D/A Operations personnel. The Plant Criticality Safety Committee conducts an annual review of the Nuclear Criticality Safety Program as required by the OSRs.

Record review indicated D/A Operations personnel annually verify that the OSRs remain current as required by the OSR Administrative Controls.

A review of the safety basis documentation describing the CAAS revealed a discrepancy. The configuration of the CAAS in the D/A facilities and the surveillance testing requirements used to confirm operability of the system do not match the System Analysis Document referenced as the system's technical basis in the Operational Safety Requirements (SEI-1). This is due to modification of the CAAS without updating the System Analysis Document.

demonstrate continuous operability of the system.

The OSRs address other safety limits by requiring the use of Criticality Safety Approvals (CSAs). The CSAs are used as source or reference documents in the generation of D/A operating procedures. All D/A CSAs were reviewed. The operating limits established in the CSAs were consistent with the OSRs and the safety basis documentation. The designated equipment and systems are present as described in the Operational Safety Requirements and the CSAs with one exception. The alarm signal for the CAAS in the 9204-2E Material Access Area does not provide an audible or visual warning in all areas of the 9204-2E Facility as required by the OSRS. An air handling unit in 9204-2E that is entered twice a shift has a noise level which makes the CAAS inaudible and there are no CAAS visual signals in the unit. Following identification of this deficiency, a letter was issued by the Y-12 DOE Site Office on September 21, 1995, to provide temporary guidance for entry into the air handler until engineering evaluations could be performed to determine the adequate corrective action for this condition. No corrective action has been identified and evaluated. The approved compensatory measure which relies on continuous visual monitoring of a portable radiation detector while personnel are in the air handler is unsatisfactory for use on a continuous basis (SE1-2).

Three D/A procedures were reviewed to check compliance with all applicable CSAs. The procedures reflected all active CSA requirements.

Interviews: Operations, management and maintenance personnel were interviewed as well as members of the NCSO, Plant Criticality Safety Committee, Fire Department and the Plant Shift Superintendent organization. Interview topics included D/A safety systems, USQD process, CSA compliance, procedure compliance, work control, lock out/tag out, and work practices. All personnel interviewed were knowledgeable of the nuclear hazards associated with the facility. All D/A personnel demonstrated adequate knowledge of the facility's safety systems, CSAs, and the use of procedures. All personnel included, without prompting, the USQD process in their discussions of administrative and physical changes to the facility. The individuals' level of knowledge of the USQD process was commensurate with their duties.

Shift Performance Evolution: A walkdown of two CSAs was observed. During the walkdown, the NCSO Criticality Engineer performing the check and the Facility Support Manager demonstrated adequate knowledge of the facility and the safety requirements prescribed by the CSAs. No discrepancies were noted.

The CAAS Quarterly Alarm System Coverage test was observed. The test results

indicated the failure of several speakers. Although several speakers did not operate, the required sound coverage was verified.

Fire Sprinkler System Monthly Valve Position and Supply Pressure tests were observed with no deficiencies. A fire system verification was observed. This involved a walkdown of the fire system using approved engineering drawings. The drawings reflected the actual condition of the system.

Operational Safety Requirements can be technically accomplished. Compliance with the applicable Operational Safety Requirements are verified through surveillances of the safety systems and annual walkdowns of all active CSAs.

CONCLUSION: The criteria of this objective have not been met.

DEFICIENCY(S):

- The configuration of the Criticality Accident Alarm System (CAAS) in the D/A facilities and the surveillance testing requirements used to confirm operability of the system do not match the System Analysis Document referenced as the system's technical basis in the Operational Safety Requirements (OSRs). (SE1-1)
- The alarm signal for the Criticality Accident Alarm System (CAAS) in the 9204-2E Material Access Area does not provide an audible or visual warning in all areas of the 9204-2E Facility as required by the Operational Safety Requirements (OSRs). (SE1-2)

WEAKNESSES:

Inspected by: _____ Branch Chief Initials	Approved by: _____ Y-12 Site Manager Date
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Form 1, Rev. 1

12.6 Form 2, EUO Deficiency Form

EUO DEFICIENCY/WEAKNESS FORM

FUNCTIONAL AREA: Safety Envelope	OBJECTIVE NUMBER: SE-1	DATE: 8/27/96 ID#:
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DEFICIENCY: The alarm signal for the Criticality Accident Alarm System (CAAS) in the Building 9204-2E Material Access Area (MAA) does not provide an audible or visual warning in all areas of the 9204-2E Facility as required by the Operational Safety Requirements (OSRs).

WEAKNESS:

REQUIREMENT: A Criticality Accident Alarm System shall be provided for the Material Access Area in 9204-2E.

REFERENCE: Operational Safety Requirements for Buildings 9204-2 and 9204-2E Material Access Area, Y/TS-1314, LCO 3.1.2.

Attach supporting documentation.

SUBMITTED BY: _____	BRANCH CHIEF: _____
DATE: _____	DATE: _____

(For Deficiency Review Board (DRB) Use Only)

CONCLUSION/DETERMINATION: Accepted ☐ Rejected ☐

DEFICIENCY DESIGNATION: Prerestart ☐ Postrestart ☐

APPROVED BY: _____ Vice Chairman, DRB	APPROVED: _____ Chairman, DRB
DATE: _____	DATE: _____

12.7 Acronyms

BIO	Basis for Interim Operation
CAAS	Criticality Accident Alarm System
CM	Configuration Management
CO	Core Objective
CRAD	Criteria and Review-Approach Document
CSA	Compliance Schedule Agreement
CSE	Criticality Safety Evaluation
CSR	Criticality Safety Requirement
DNFSB	Defense Nuclear Facilities Safety Board
DOE	Department of Energy
DP	Defense Programs
DRB	Deficiency Review Board
EH	Environment, Safety, and Health
EM	Emergency Management
EN	Engineering
EP	Environmental Protection
EUO	Enriched Uranium Operations
FP	Fire Protection
HQ	Headquarters
IH	Industrial Hygiene
LCO	Limiting Conditions for Operations
LMES	Lockheed Martin Energy Systems, Inc.
MAA	Material Access Area
MAR	Monthly Assessment Report
MIA	Management Internal Assessment
MIP	Maintenance Implementation Plan
MOU	Memorandum of Understanding
MS	Management Systems
MSA	Management Self-Assessment
MT	Maintenance
M&TE	Measuring and Test Equipment
NCSD	Nuclear Criticality Safety Department
NS	Nuclear Safety
OA	Operational Assessment
OJT	On-The-Job Training
OP	Conduct of Operations
ORO	Oak Ridge Operations
ORPS	Occurrence Reporting and Processing System
ORR	Operational Readiness Review
OS	Occupational Safety and Health Administration/Industrial Hygiene
OSR	Operational Safety Requirement
PBR	Process-Based Restart
PK	Packaging and Transportation
POA	Plan of Action
PSS	Plant Shift Superintendent
QA	Quality Assurance
RFA	Request for Approval
RP	Radiological Protection
RWP	Radiological Work Permit
SER	Safety Evaluation Report

12.7 Acronyms (Cont.)

SME	Subject Matter Expert
SNM	Special Nuclear Material
S/RID	Standard/Requirement Identification Document
STA	Shift Technical Advisor
TQ	Training and Qualification
TSR	Technical Safety Requirements
USQ	Unreviewed Safety Question
USQD	Unreviewed Safety Question Determination
WM	Waste Management
YSO	Y-12 Site Office